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10 CFR 50.90
10 CFR 50.54(q)

TMI-18-038

March 19, 2018

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Three Mile Island Nuclear Station, Unit 1
Renewed Facility Operating License No. DPR-50
NRC Docket No. 50-289

Three Mile Island Nuclear Station, Unit 2
Possession Only License No. DPR-73
NRC Docket No. 50-320

Subject: License Amendment Request - Proposed Changes to the Three Mile Island Emergency Plan for Post-Shutdown and Permanently Defueled Condition

Reference: Letter from J. Bradley Fewell (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Certification of Permanent Cessation of Power Operations for Three Mile Island Nuclear Station, Unit 1," dated June 20, 2017 (NRC Accession No. ML17171A151)

Pursuant to 10 CFR 50.90, "Application for amendment of license or construction permit," Exelon Generation Company, LLC (Exelon) requests an amendment to Renewed Facility Operating License Number DPR-50 for Three Mile Island Nuclear Station, Unit 1 (TMI-1). The proposed amendment would revise the site emergency plan (SEP) for the post-shutdown and permanently defueled condition. The proposed changes are being submitted to the NRC for approval prior to implementation, as required under 10 CFR 50.54(q)(4).

On May 30, 2017, Exelon announced that it plans to close TMI-1 due to severe economic challenges. Under the terms of this announcement, Exelon agreed to permanently cease operations at TMI on or about September 30, 2019. By letter dated June 20, 2017 (Reference 1), Exelon provided formal notification to the U.S. Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 50.4(b)(8) and 10 CFR 50.82(a)(1)(i) of Exelon's determination to permanently cease operations at TMI-1 on or about September 30, 2019.

Once the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel are submitted to the NRC pursuant to 10 CFR 50.82(a)(1)(i) and (ii), and pursuant to 10 CFR 50.82(a)(2), the 10 CFR 50 license will no longer authorize operation of the reactor or placement or retention of fuel in the reactor vessel.

Three Mile Island, Unit 2 (TMI-2), has a possession only license and is currently maintained in accordance with the NRC approved SAFSTOR condition (method in which a nuclear facility is placed and maintained in a condition that allows it to be safely stored and subsequently de-contaminated) known as Post-Defueling Monitored Storage (PDMS). Exelon maintains the emergency planning responsibilities for TMI-2, which is owned by First Energy Corporation, through a service agreement. This License Amendment Request (LAR) does not impact Exelon's ability to maintain the service agreement.

The proposed SEP changes would revise the on-shift staffing and the Emergency Response Organization (ERO) staffing. Exelon has reviewed the proposed changes against the planning standards in 10 CFR 50.47(b) and requirements in 10 CFR 50, Appendix E and concludes that the standards and requirements will continue to be met.

The proposed changes to the SEP are commensurate with the reduced spectrum of credible accidents in the post-shutdown and permanently defueled condition. In order to assist in the transition from an operating facility to a permanently defueled facility, the changes are required to properly reflect the conditions of the facility while continuing to preserve the TMI-1 Decommissioning Trust Fund and the effectiveness of the SEP.

The proposed changes have been evaluated in accordance with 10 CFR 50.91(a)(1) using criteria in 10 CFR 50.92(c), and Exelon has determined that this change involves no significant hazards consideration. Exelon has also determined that the proposed SEP changes satisfy the criteria for categorical exclusion in accordance with 10 CFR 51.22(c)(10) and do not require an environmental review. Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is required.

The description and evaluation of the proposed SEP changes are contained in Attachment 1. Attachment 2 provides a tabular summary of the proposed changes to the SEP. Attachment 3, Exhibits A and B, provides the revised pages of the SEP with the proposed changes. Attachment 3 Exhibits C and D provide clean copies of the SEP documents. Attachment 4 provides the analysis of ERO tasks that will be reassigned to remaining ERO positions.

Attachment 5 of this letter contains a new regulatory commitment.

On February 13, 2018, Exelon provided the Commonwealth of Pennsylvania – Department of Environmental Protection Bureau of Radiation Protection (PA-BRP), with a draft copy of the TMI-1 Post-Shutdown Emergency Plan (PSEP), for comment. The PA-BRP responded with the comments, which were received via electronic mail on February 20, 2018. Exelon reviewed each comment and responded accordingly. Attachment 6 provides a copy of an electronic mail from the PA-BRP dated March 8, 2018, confirming the completion of its review of the PSEP prior to the formal submission of the LAR to the NRC "with no further comments at this time."

Exelon requests review and approval of the proposed license amendment by March 19, 2019, and a 90-day implementation period from the effective date of the amendment. Exelon requests that the approved amendment become effective following the docketing of the certifications required by 10 CFR 50.82(a)(1) that TMI-1 has been permanently defueled. Once effective, implementation will occur within the 90 days, as noted, but will not exceed December 31, 2019.

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In accordance with 10 CFR 50.91 "Notice for public comment; State consultation" paragraph (b), Exelon is notifying the State of Pennsylvania of this application for license amendment by transmitting a copy of this letter and its attachments to the designated State Official.

The proposed changes are being submitted to the NRC for approval prior to implementation, as required under 10 CFR 50.54(q)(4).

If you have any questions concerning this submittal, please contact Paul Bonnett at (610) 765-5264.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 19th day of March 2018.

Respectfully,

A handwritten signature in black ink, appearing to read "Michael P. Gallagher", with a long horizontal flourish extending to the right.

Michael P. Gallagher
Vice President, License Renewal & Decommissioning
Exelon Generation Company, LLC

Attachment: 1. Description and Evaluation of Proposed Changes
 2. Tabular Summary of Proposed Changes to the Site Emergency Plan
 3. Proposed Revision to Site Emergency Plan
 4. Emergency Response Organization Task Analysis
 5. Summary of Regulatory Commitments
 6. Correspondence with State of Pennsylvania

cc: w/Attachment

NRC Regional Administrator, Region I
NRC Senior Resident Inspector – Three Mile Island Nuclear Station – Unit 1
NRC Project Manager, NRR – Three Mile Island Nuclear Station – Unit 1
NRC Project Manager, NMSS/DUWP/RDB – Three Mile Island – Unit 2
Director, Bureau of Radiation Protection - PA Department of Environmental Resources

Attachment 1

License Amendment Request

Three Mile Island Nuclear Station

Docket No. 50-289

DESCRIPTION AND EVALUATION OF PROPOSED CHANGES

Subject: Proposed Changes to the Three Mile Island Emergency Plan for Permanently Shutdown Condition

- 1.0 SUMMARY DESCRIPTION
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1.0 SUMMARY DESCRIPTION

This evaluation supports a request to amend the Renewed Facility Operating License (OL) DPR-50 for Three Mile Island Nuclear Station, Unit 1 (TMI). The proposed changes would revise TMI Site Emergency Plan (SEP) on-shift and Emergency Response Organization (ERO) staffing to support the planned permanent cessation of operations and permanent defueling of the TMI reactor (Reference 8.1). Specifically, the proposed changes would eliminate the on-shift positions not needed for the safe storage of spent fuel in the Spent Fuel Pool (SFP) during the initial decommissioning period and eliminate the ERO positions not necessary to effectively respond to credible accidents. The proposed changes in staffing are commensurate with the reduced spectrum of credible accidents for a permanently shutdown and defueled power reactor facility.

The proposed changes will also relocate full augmentation position requirements from the SEP to the Emergency Preparedness Implementing Procedures (EPIPs).

Exelon Generation Company, LLC (Exelon) has reviewed the proposed changes against the planning standards in 10 CFR 50.47(b) and requirements in 10 CFR 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," and has concluded that the standards and requirements will continue to be met. Therefore, no exemption from 10 CFR 50.47 or 10 CFR 50, Appendix E, is requested in support of this License Amendment Request (LAR).

As specified in Attachment 5 of this submittal, Exelon has committed to conduct a confirmation Emergency Preparedness Drill under this License Amendment Request to demonstrate that no loss of EP function will result due to the proposed changes. The drill will include each of the Emergency Response Facilities (ERF) described in the Emergency Plan.

2.0 PROPOSED CHANGES

2.1 Description of Proposed Changes

The TMI Emergency Plan consists of the following documents:

- EP-TM-1000, "Three Mile Island Radiological Emergency Plan" (Emergency Plan)
- EP-AA-1009, "Radiological Emergency Plan Annex for Three Mile Island (TMI) Station" (Annex)
- EP-AA-1009, Addendum 1, "Three Mile Island Station On-Shift Staffing Technical Basis"
- EP-AA-1009, Addendum 2, "Evacuation Time Estimates for Three Mile Island Plume Exposure Pathway Emergency Planning Zone"
- EP-AA-1009, Addendum 3, "Emergency Action levels for Three Mile Island (TMI) Station"

The on-shift and Augmented ERO positions are being revised to respond to reduced spectrum of credible accidents for a permanently shutdown and defueled power reactor facility. Once the fuel is permanently removed from the reactor and relocated to the spent fuel pool, TMI will submit written certification to the NRC in accordance with 10 CFR 50.82(a)(1). Pursuant to 10 CFR 50.82(a)(2), TMI will no longer be authorized to operate the reactor, or to place or store fuel in the reactor vessel. The operations staff will no longer be required to implement emergency operating procedures and the scope of applicable abnormal response procedures will be significantly reduced.

Augmented ERO is defined as the Minimum Staff required to relieve the on-shift staff of Emergency Preparedness functions. The Minimum Staff will be either those required to respond within 60-minutes or 90-minutes. The current SEP contains full augmentation personnel who provide support functions that do not directly impact the ability of the ERF personnel to perform their Emergency Preparedness functions, nor are they required to activate the ERFs or take command and control from the on-shift staff. These full augmentation positions are proposed to be removed from the SEP and will be managed and controlled by EPIPs.

Attachment 2 to this License Amendment Request provides a tabular summary of the proposed changes to the TMI Emergency Plan and Emergency Plan Annex. Attachment 3 provides the revised pages of the Emergency Plan and Emergency Plan Annex with the proposed changes shown in strikethrough and underline format. Attachment 4 contains an evaluation of the Emergency Response Organization tasks.

2.2 On-Shift Staffing

Currently, the TMI Emergency Plan, EP-TM-1000, Table TMI B-1: "Minimum Staffing Requirements for TMI Station," specifies the following 17 on-shift staff:

- One (1) Shift Manager
- One (1) Control Room Supervisor
- Two (2) Control Room Operators
- Two (2) Auxiliary Operators
- One (1) Emergency Communicator (Plant Shift Personnel)
- One (1) Radiation Protection (RP) Personnel (Offsite Dose Assessor)
- One (1) RP Technician (In-Plant Surveys)
- One (1) Chemistry Personnel
- One (1) Shift Technical Advisor (STA) / Incident Assessor
- Six (6) Fire Brigade members

To support reduced staffing following permanent cessation of operations and permanent removal of fuel from the reactor vessel, the staffing levels have been evaluated by reviewing NUREG-0654 (Reference 8.4) and validating the conclusion, in part, using the methodology in NEI 10-05 (Reference 8.7), which evaluates the postulated accidents that will be applicable in the permanently defueled condition.

The proposed changes to TMI Emergency Plan, EP-TM-1000, Table TMI B-1, "Minimum Staffing Requirements for TMI Station," eliminates six (6) on-shift positions from the present Emergency Plan staffing levels. The eliminated positions include the following on-shift positions:

- Two (2) Control Reactor Operators
- Two (2) Auxiliary Operators (AO)
- One (1) Chemistry Personnel
- One (1) Shift Technical Advisor (STA) / Incident Advisor

The required on-shift staff following permanent defueling is commensurate with the need to safely store spent fuel at the facility in a manner that is protective of public health and safety. The following proposed on-shift complement will be required in the permanently shutdown condition:

- One (1) Shift Manager (qualified as a Certified Fuel Handler)
- One (1) Shift Supervisor (qualified as a Certified Fuel Handler)
- One (1) Non-Certified Operator (NCO)
- One (1) Emergency Communicator (Plant Shift Personnel)
- Two (2) RP Technicians
- Fire Brigade members (per the TMI Fire Protection Program)

The Fire Brigade is described in Section 5.2.7. The complement following permanent defueling will initially consist of a minimum of five (5) responders, including a Fire Brigade Team Leader and a minimum of four (4) trained and qualified Fire Brigade Members in accordance with the Station Fire Protection Program. Upon establishment of the incipient fire brigade the fire brigade membership may be reduced to three (3) members.

Changes in position titles (e.g., Non-Certified Operator (NCO), Certified Fuel Handler (CFH), respectively) are consistent with proposed changes to the TMI Technical Specifications (TS) (Reference 8.2) that revise the minimum shift staffing requirements at TMI by replacing references to licensed and non-licensed operators with references to CFHs and NCOs.

The term NCO is used to differentiate from CFH. CFHs will supervise/perform fuel handling operations in the permanently defueled condition. Shift Supervisors and Shift Managers (SMs) will be qualified as CFHs. Therefore, any reference to the SM or Shift Supervisor position throughout this submittal is considered to encompass the CFH position requirements. NCOs will perform duties typically associated with those performed by Auxiliary Operators (AO), such as manipulation and monitoring of plant equipment. NCOs can also be assigned to monitor indications and communications in the Control Room. The NRC approved the CFH training program on December 29, 2017 (Reference 8.3).

2.3 Emergency Response Organization 60 Minute/90-Minute Augmentation Staff (Minimum Staffing)

Currently, EP-TM-1000, Table TMI B-1 specifies the Augmented Staffing for certain positions in the Major Functional Areas identified in Table B-1 of NUREG 0654. TMI Emergency Plan (EP-TM-1000) identifies the Minimum Staff as those ERO members that are required to activate their respective ERF at the appropriate Emergency Action Level (EAL) Classification level.

Proposed revisions would eliminate nine (9) Minimum Staff positions as shown in the Table 2-1 "TMI Minimum Staff Positions" below. In addition, a number of positions currently assigned to as Minimum Staff were evaluated as not required to perform Emergency Planning Functions nor be required to activate their respective Emergency Response Facilities. These positions are being designated as full augmentation positions.

Table 2-1, TMI Minimum Staff Positions

Current Minimum Staff Positions	Proposed Minimum Staff Positions <i>(Response times are 60 minutes unless otherwise noted)</i>
Technical Support Center (TSC)	
Station Emergency Director	Station Emergency Director
Rad Protection Manager	Rad Protection Manager
Maintenance Manager	Maintenance Manager
Operations Manager	Operations Manager
Technical Manager	Technical Manager
ENS Communicator	ENS Communicator
N/A	Added Security Coordinator
TSC Director	Position Eliminated
Core Thermal Engineer	Position Eliminated
Mechanical Engineer	Position Eliminated
Electrical Engineer	Position Eliminated
SAMG Decision Maker (collateral)	Position Eliminated
SAMG Evaluator #1 (collateral)	Position Eliminated
SAMG Evaluator #2 (collateral)	Position Eliminated
Offsite Field Team #1 Personnel	Offsite Field Team #1 Personnel
Offsite Field Team #1 Driver	Offsite Field Team #1 Driver
Offsite Field Team #2 Personnel	Offsite Field Team #2 Personnel (@90 min.)
Offsite Field Team #2 Driver	Offsite Field Team #2 Driver (@90 min.)
Onsite Field Team #1 Personnel (onsite surveys)	Onsite Field Team #1 Personnel
Onsite Field Team #1 Driver (onsite surveys)	Position Eliminated
Emergency Operations Facility (EOF)	
Corporate Emergency Director	Corporate Emergency Director
State / Local Communicator	State / Local Communicator
Radiation Protection Manager	Radiation Protection Manager
Dose Assessment Coordinator	Dose Assessment Coordinator
HPN Communicator	Designated Full Augmentation per EPIP
EOF Director	Designated Full Augmentation per EPIP
Logistics Manager	Designated Full Augmentation per EPIP
Environmental Coordinator	Designated Full Augmentation per EPIP
N/A	Added Computer Specialist (@ 90 min.)
Joint Information Center	
JIC Director	JIC Director
Corporate Spokesperson	Corporate Spokesperson
Public Information Director	Public Information Director
Operations Support Center (OSC)	
OSC Director	OSC Director
RP Personnel #1	RP Personnel #1
RP Personnel #2	Position Eliminated

RP Personnel #3	Position Eliminated
RP Personnel #4	Position Eliminated
Mechanical Maintenance	Mechanical Maintenance
Electrical Maintenance / I&C #1	Electrical Maintenance
Electrical Maintenance / I&C #2	Position Eliminated

2.4 Full Augmented Staff Change

The TMI full augmentation staff is identified in Part II Section B in Table B-1. These positions provide support functions that do not directly impact the ability of the ERFs personnel to perform their Emergency Plan Functions, nor are they required to activate the ERFs or take command and control from the on-shift staff. The full augmentation positions in the TSC and OSC, with the exception of the TSC Security Coordinator, will be eliminated from the SEP. The full augmentation positions in the EOF and JIC, with the exception of the EOF Computer Specialist, are proposed to be removed from the SEP and will be managed and controlled by EPIPs.

The proposed changes to the "Full" Augmented ERO positions are identified in the Table 2-2 below.

Table 2-2, TMI Augmented Staff Position Disposition

Current Augmented Staff Position	Proposed Augmented Staff Disposition
Technical Support Center (TSC)	
Security Coordinator	Position designated as minimum staff (@ 60 min.)
Rad Controls Coordinator	Position Eliminated
Rad Controls Engineer	Position Eliminated
TSC Operations Communicator	Position Eliminated
CR Operations Communicator	Position Eliminated
CR Damage Control Communicator	Position Eliminated
State/Local Communicator	Position Eliminated
Logistics Coordinator	Position Eliminated
TSC Technical Communicator	Position Eliminated
TSC Damage Control Communicator	Position Eliminated
HPN Communicator	Position Eliminated
Clerical Staff	Position Eliminated
Emergency Operations Facility (EOF)	
Technical Support Manager	Designated Full Augmentation per EPIP
Regulatory Liaison	Designated Full Augmentation per EPIP
Dose Assessor	Designated Full Augmentation per EPIP
Operations Advisor	Designated Full Augmentation per EPIP
Technical Advisor	Designated Full Augmentation per EPIP
Computer Specialist	Computer Specialist Position designated as minimum staff (@90 min)
EOF Security Coordinator	Designated Full Augmentation per EPIP
EOF Administrative Coordinator	Designated Full Augmentation per EPIP
State EOC Liaison	Designated Full Augmentation per EPIP

EOF Clerical Support	Designated Full Augmentation per EPIP
Operations Assistant	Designated Full Augmentation per EPIP
Field Team Communicator	Designated Full Augmentation per EPIP
EOF ENS Communicator	Designated Full Augmentation per EPIP
EOF Events Recorder	Designated Full Augmentation per EPIP
EOC (Governmental) Communicator	Designated Full Augmentation per EPIP
N/A	HPN Communication designated Full Augmentation per EPIP
N/A	EOF Director designated Full Augmentation per EPIP
N/A	Logistics Manager designated Full Augmentation per EPIP
N/A	Environmental Coordinator designated Full Augmentation per EPIP
Joint Information Center (JIC)	
JIC Coordinator	Designated Full Augmentation per EPIP
News Writer	Designated Full Augmentation per EPIP
Media Monitoring Staff	Designated Full Augmentation per EPIP
Clerical Support	Designated Full Augmentation per EPIP
Access Controller JIC	Designated Full Augmentation per EPIP
Radiation Protection Spokesperson	Designated Full Augmentation per EPIP
Technical Spokesperson	Designated Full Augmentation per EPIP
Events Recorder	Designated Full Augmentation per EPIP
Rumor Control Staff	Designated Full Augmentation per EPIP
Administrative Coordinator	Designated Full Augmentation per EPIP
Operations Support Center (OSC)	
OSC Damage Control Communicator	Position Eliminated
Assistant OSC Director	Position Eliminated
Operations Lead & Support Personnel	Position Eliminated

3.0 REASON FOR PROPOSED CHANGES

The proposed changes are desired to reflect the pending permanent cessation of operation and permanent defueling of the TMI reactor. After the reactor is shut down, all fuel assemblies will be removed from the reactor vessel and placed in the SFP. The irradiated fuel will be stored in the SFP until an Independent Spent Fuel Storage Facility (ISFSI) is built at TMI. Once the ISFSI is complete the fuel will be relocated to the ISFSI until it is shipped off-site in accordance with the schedules that will be described in the Post-Shutdown Decommissioning Activities Report (PSDAR) and updated Irradiated Fuel Management Plan. Upon docketing of the certifications for permanent cessation of operations (10 CFR 50.82(a)(1)(i)) and permanent removal of fuel from the reactor vessel (10 CFR 50.82(a)(1)(ii)), pursuant to 10 CFR 50.82(a)(2), the 10 CFR 50 license for TMI will no longer authorize operation of the reactor or emplacement or retention of fuel into the reactor vessel.

The proposed revisions to the TMI Emergency Plan are commensurate with the reduction in hazards associated with the permanently defueled condition and will allow the facility staff to transition from that required for an operating facility to that required for a permanently defueled facility. The proposed changes are required to properly reflect the

conditions of the facility while continuing to preserve the TMI Decommissioning Trust Fund and the effectiveness of the TMI Emergency Plan.

4.0 BACKGROUND

4.1 On-Shift and ERO Staffing Guidance

NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," (Reference 8.4), Section II.B, "Onsite Emergency Organization," presents guidance for meeting the planning standards and requirements of 10 CFR 50.47(b) and 10 CFR 50, Appendix E, Section IV.A. The guidance describes the onsite emergency organization, including the staffing requirements found in Table B-1, "Minimum Staffing Requirements for NRC Licensees for Nuclear Power Plant Emergencies." This table specifies a minimum of ten on-shift responders in four Major Functional Areas. It also specifies seven on-shift response functions where the duties may be performed by shift personnel who are assigned other functions (i.e., there are no dedicated responders to perform these functions). Table B-1 specifies two Major Functional Areas (i.e., firefighting and site access control/personnel accountability) which must be staffed on a site-specific basis.

The on-shift staff must be able to cope with a spectrum of events until augmenting ERO personnel arrive in accordance with the site's emergency plan commitments. The augmenting ERO responders assume many managerial, engineering, and administrative duties from the on-shift personnel, allowing on-shift personnel to focus more fully on plant operations.

On November 23, 2011, the NRC published a final rule in the Federal Register (i.e., 76FR72560) amending certain Emergency Preparedness (EP) requirements in its regulations that govern domestic licensing of production and utilization facilities (Reference 8.5). This final rule amended 10 CFR 50, Appendix E, Section IV.A, "Organization," to address the assignment of tasks or responsibilities to on-shift ERO personnel that could potentially overburden them and prevent the timely performance of their emergency plan functions. Specifically, Section IV.A.9 states that licensees shall perform "...a detailed analysis demonstrating that on-shift personnel assigned emergency plan implementation functions are not assigned responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan."

Coincident with the rule change in 10 CFR 50, Appendix E, Section IV.A.9, the NRC issued Interim Staff Guidance (ISG) NSIR/DPR-ISG-01, "Interim Staff Guidance - Emergency Planning for Nuclear Power Plants" (Reference 8.6). This ISG provides information relevant to performing the on-shift staffing analysis. The ISG states that the Nuclear Energy Institute (NEI) developed NEI 10-05, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities," (Reference 8.7) to establish a standard methodology for a licensee to perform the required staffing analysis, and that the NRC reviewed NEI 10-05 and found it to be an acceptable methodology for this purpose. The ISG also indicates that the completed staffing analyses are required to be part of the emergency plan and the results documented and submitted to the NRC in accordance with 10 CFR 50.54(q)(5).

4.2 Three Mile Island Station On-Shift Staffing

In December 2012, an initial on-shift staffing assessment (OSA) was completed in accordance with the NEI 10-05 guidance to satisfy the requirements of 10 CFR 50, Appendix E, Section IV.A.9. This assessment examined the capability of the existing minimum staff to perform the key emergency response actions for events described in the ISG until augmenting ERO staff arrive. The analysis was conducted by a cross disciplinary team of corporate EP personnel and station personnel from the Operations, RP, Chemistry, Licensing and EP departments. The emergency response to each of the events described in the ISG was determined by conducting a tabletop of the event using the emergency plan and procedures and the applicable departmental procedures such as emergency and off-normal procedures.

Each scenario was reviewed to determine what plant actions and emergency plan implementation actions were required prior to staff augmentation based on plant procedures. These actions were then compared to the minimum staffing for emergency response implementation ensuring that no actions were assigned to staff members that conflicted with either their dedicated emergency response role or their dedicated operational role, as appropriate. The accident scenarios considered in this OSA were the Design Basis Threat (DBT) Ground Assault, Aircraft Probable Threat, Fire Requiring Control Room Evacuation, Large Break Loss of Coolant Accident (LOCA), Station Blackout (SBO), Steam Generator Tube Rupture, Control Rod Ejection Accident, Waste Gas Tank Rupture, and Fire in Engineered Safeguards Actuation Signal (ESAS) Room. The OSA most limiting accident scenario was determined to be a Fire Requiring Control Room Evacuation.

EP-TM-1000, Table TMI B-1 currently specifies the minimum staffing requirements for the TMI ERO and defines the positions initially responsible for satisfying key ERO functions and specifies positions that will augment the on-shift staff.

In support of this LAR, the Post Shutdown Staffing Analysis was conducted using the guidance of NEI 10-05 and a summary of the results is provided in Section 5.3.1. The FHA was included as part of the Post Shutdown OSA, along with Design Basis Threat (DBT) Ground Assault, Aircraft Probable Threat, Fire Requiring Evacuation of the Control Room, Station Blackout (SBO) and an accident which results in a General Emergency.

4.3 Three Mile Island Station Emergency Response Organization Staffing

The TMI Emergency Plan defines four classes of emergency events; Notification of Unusual Event (UE), Alert, Site Area Emergency (SAE), and General Emergency (GE). Because on-shift personnel can normally address an emergency response to UEs without additional support, staff augmentation is not typically activated for an UE declaration. The Operations SM maintains responsibility during UEs. The second classification level, Alert, requires ERO activation of all ERFs. This includes the Technical Support Center (TSC), the Operations Support Center (OSC), the Emergency Operations Facility (EOF), and the Joint Information Center (JIC). Overall responsibility for the event is assumed by the Emergency Director in the EOF. When ERO activation is required, notification is sent to those required to respond to their assigned ERF.

EP-TM-1000, Part II, Section B, "Three Mile Island Emergency Response Organization," describes how the normal plant operating organization transitions into an ERO to effectively deal with any incident at TMI. Section B.1, "On-Shift Emergency Response Organization Assignments," describes the normal operation organization on duty at the plant during all shifts.

The TMI Overall ERO Command Structure is shown in EP-TM-1000, Figure B-1a. Staffing for the Emergency Onsite Organization is shown in EP-TM-1000, Figure B-1b (TSC and OSC). Staffing for the Emergency Offsite Organization is shown in EP-TM-1000, Figure B-1c (EOF) and staffing for the Emergency Public Information Organization is shown in EP-TM-1000, Figure B-1d (JIC).

These organizations are notified depending upon the emergency classification. Elements of the emergency response plan are activated subsequent to an emergency declaration by the SM; designated company personnel are notified and will report to their designated locations. The emergency response actions of the personnel already present are performed on a priority basis depending on the emergency conditions and the immediate need that those conditions dictate, as determined by the on-shift operations crew.

TMI requires members to act promptly in reporting to their assigned ERF, even when not on duty. During duty periods, the procedure further requires that team members respond within the committed response time and that they remain fit for duty throughout their duty assignment. Individuals are trained to respond directly to their ERF even if they are not on duty. Excess personnel that respond may be assigned support responsibilities or be designated as a relief shift. This conservative policy ensures timely activation since some off-duty personnel may respond sooner than the on-duty personnel. The proposed revisions to the Emergency Plan will not change these requirements. It will continue to be a management expectation that all qualified individuals for each position respond and report to their respective ERF as quickly as possible. EP procedures identify ERO positions assigned to each facility and the minimum staffing required before each facility can be declared operational and is available to perform its designed functions.

EP-TM-1000, Table TMI B-1 identifies the personnel required to staff and activate the TSC, OSC, EOF, and the JIC. The mobilization scheme ensures that specific technical disciplines identified by Table B-1 of NUREG-0654 can be augmented within appropriate time frames.

5.0 TECHNICAL EVALUATION

5.1 Accident Analysis

Chapter 14, "Accident Analysis," of the TMI Final Safety Analysis Report as Updated (UFSAR) describes the Abnormal Operational Transients and Design Basis Accident (DBA) scenarios that are applicable during plant operations. Upon docketing of the certifications required by 10 CFR 50.82(a)(1)(i) and (ii), pursuant to 10 CFR 50.82(a)(2), TMI will no longer authorize operation of the reactor or emplacement or retention of fuel in the reactor vessel. Therefore, most of the accident scenarios postulated in the UFSAR will no longer be applicable once TMI is in the permanently defueled condition.

The Chapter 14 accidents that will remain applicable to TMI in its permanently shutdown and defueled condition is the Fuel Handling Accident (FHA) in the Spent Fuel Pool (SFP), Cask Drop Accident in SFP (addresses non-single failure proof crane), and the Waste Gas Tank Rupture. UFSAR Chapter 14 will be revised to eliminate the DBAs that will not be applicable in the permanently defueled condition.

In the permanently defueled condition, TMI will be required to respond to events that involve the loss of SFP cooling and/or water inventory, or external events (e.g. fire, flooding, earthquake, high winds, or hostile actions) that would lead to a loss of SFP cooling and/or water inventory. In addition, TMI will continue to implement the emergency response actions necessary to respond to potential aircraft impacts required by 50.54(hh)(1). These strategies will be in place for the protection of the SFP. The strategies will no longer address restoring core cooling and containment since they are not applicable in the permanently defueled condition.

5.2 Functional Area Technical Evaluation

The following provides evaluation of the changes to the Major Functional Areas found in Table B-1 of NUREG-0654. The analysis addressed both on-site and augmented Emergency Response Organization (ERO) for each function. The current TMI Table B-1 lists the following functional areas:

- Plant Operations/Safe Shutdown and Assessment of Operational Aspects
- Emergency Direction and Control
- Notification & Communication
- Radiological Accident Assessment and Support of Operational Accident Assessment
- Plant System Engineering, Repair and Corrective Actions
- In-Plant Protective Actions
- Fire Fighting
- First Aid and Rescue Operations
- Site Access Control and Personnel Accountability
- Resource Allocation and Administration
- Public Information

5.2.1 Major Functional Area: Plant Operations and Assessment of Operational Aspects

ON-SHIFT

Current Staffing Requirement

The TMI Emergency Plan currently identifies the following six (6) on-shift staffing personnel as follows:

- One (1) Shift Manager
- One (1) Control Room Supervisor

- Two (2) Control Reactor Operators
- Two (2) Auxiliary Operator

Proposed Change

- The proposed on-shift staff for plant operations and assessment of operational aspects will consist of three (3) personnel as follows: One (1) Shift Manager (CFH)
- One (1) Shift Supervisor (CFH)
- One (1) Non-Certified Operator

The proposed change eliminates the following positions:

- Control Room Operators
- Auxiliary Operators

Analysis

Plant operations shift staffing, as implemented previously, was based on a philosophy that provided defense-in-depth for an operating nuclear power plant. Because of the reduced number of possible events requiring mitigating actions and the limited number of actions to be performed by the Control Room positions for a permanently shutdown and defueled condition, the monitoring and control will be limited to the operation of spent fuel pool support systems.

The requirement for licensed Reactor Operators (ROs) and Senior Reactor Operators (SROs) is eliminated. Per Technical Specifications, the minimum shift crew composition requires ROs and SROs who are licensed by the NRC. The Shift Manager and the Control Room Supervisor at TMI fulfill the requirements for the SROs, and the Control Reactor Operator fulfills the requirement for the RO. Under the TMI Emergency Plan, the Shift Manager, the Control Room Supervisor and the Control Reactor Operator support the Plant Operations, Safe Shutdown and Assessment of Operational Aspects. Consistent with proposed changes to the TMI Technical Specifications (TS) (Reference 8.2) that revised the minimum shift staffing requirements at TMI, the positions associated with the SRO and RO will be fulfilled by individuals qualified as CFHs and NCOs. Because of the reduced number of possible events requiring mitigating actions in the permanently defueled condition and the limited number of actions to be performed by the Control Room positions in a permanently defueled condition, the Shift Manager (CFH), Shift Supervisor (CFH) and NCO positions would provide the resources needed.

The requirement for an Auxiliary Operator (AO) is being eliminated. An AO supports reactor and plant operations with duties that include plant equipment manipulation as well as directly monitoring plant equipment performance. Under the TMI Emergency Plan, the AO supports Plant Operations, Safe Shutdown and Assessment of Operational Aspects. Because of the reduced number of possible events requiring mitigating actions in the permanently defueled condition and the limited number of actions to be performed by the Control Room positions in a permanently defueled condition, the NCO position would fulfill this task.

With the plant in a permanently shutdown and permanently defueled condition, the operations staff will only have to respond to events regarding loss of SFP cooling and/or water inventory or external events that could lead to a challenge to maintaining SFP cooling and/or water inventory. The Control Room continues to have indications, alarms, and controls for SFP parameters.

The post-shutdown OSA (Section 5.3.1) validated that in a permanently shutdown and defueled condition, with the postulated accidents that would be applicable to that condition, the following on-shift complement would be able to perform all required Emergency Plan actions in a timely manner and that there are no identified collateral duties that would prevent the timely performance of emergency plan functions:

- One (1) SM (CFH),
- One (1) Shift Supervisor (CFH)
- One (1) Non-Certified Operator (NCO)

Title changes for Licensed personnel and Equipment Operators to CHF's and NCOs, are consistent with proposed changes to the TMI Technical Specifications (Reference 8.2) that revise the minimum shift staffing requirements in the TMI Technical Specifications by replacing references to licensed and non-licensed operators with references to CHF's and NCOs.

The term NCO is used to differentiate from CHF. CHF's will supervise fuel handling operations. The Shift Supervisor will be qualified as CHF's; however, the Shift Manager requires additional qualifications for Emergency Director responsibilities beyond the CHF training. NCOs will perform duties typically associated with those performed by Equipment Operators Non-Licensed Operators (NLOs)), such as manipulation and monitoring of plant equipment.

The Non-Certified Operator (NCO) Training Program will be developed in accordance with 10 CFR 50.120 using a systematic approach to training. The NCO position combines the post-shutdown duties of the licensed Reactor Operator (RO) and the Auxiliary Operator (AO).

The NCO training program will include training on applicable aspects of the TMI Emergency Plan related to NCO duties. The training requirements will include classroom training in theory and systems topics, administrative procedures, off-normal and transient procedures/mitigation strategies and fuel handling platform operations. The training program is designed with an emphasis on systems/processes important to maintaining SFP cooling and monitoring and controlling SFP parameters, such as SFP water level and temperature. Consequently, the NCOs will be trained on pertinent Control Room indications and controls that will be monitored and operated to maintain SFP cooling and SFP water level, in addition to plant radiological conditions.

Personnel assigned to fill the NCO positions during the post-shutdown period, prior to implementation of the Permanently Shutdown Emergency Plan (PSEP), are a mixture of licensed ROs and AOs. Most of the required training for the NCO position will already have been completed by the licensed ROs because they have previously been trained and qualified as both Reactor and Auxiliary Operators to support power operations. The current AOs have been trained and qualified as non-licensed operators only. Therefore,

it is expected they will require additional training to address skill and knowledge gaps related to Control Room operations.

The proposed level of the on-shift staffing continues to meet the planning standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50, commensurate with the reduced spectrum of credible accidents in the permanently defueled condition, and that TMI retains the ability to promptly implement the SFP mitigation actions.

5.2.2 Major Functional Area: Emergency Direction and Control

Major Tasks: Command and Control/Emergency Operations

ON-SHIFT

There are no changes to the on-site performance of this function. The Shift Manager assumes the responsibility as the Shift Emergency Director and implements the emergency plan, and activates the ERO as appropriate. The Shift Emergency Director is relieved of Command and Control as soon as possible after the declaration of an Alert (or higher classification if an Alert is not declared).

AUGMENTED ERO

Current Requirements

Upon Activation of the ERO, the Station Emergency Director in the TSC directs and supervises the Station ERO. The Station ERO reports to the Corporate Emergency Director in the EOF who has overall command authority for ERO actions. The Station Emergency Director can relieve the Shift Emergency Director of all Non-Delegable functions. The Station Emergency Director would transfer Notifications and Protective Action Recommendation (PAR) decision making to the Corporate Emergency Director. The Station Emergency Director would retain the Classification and Emergency Exposure Controls functions.

Proposed Change

The TMI Emergency Plan Part II, "Planning Standards and Criteria", Section B, "Exelon Nuclear Emergency Response Organization", Subsections 3, "Criteria for Assuming Command and Control (Succession)", and 4, "Non-Delegable Responsibilities" will be modified as follows:

The TSC will no longer perform Notifications and PAR decision making. These functions will be directly transferred to the EOF under the control of the Corporate Emergency Director and the EOF minimum staff.

Analysis

Both the Station and off-site ERO are 60-minute responders, and both facilities can assume command and control from the Shift Emergency Director. All non-delegable functions are still maintained with clear definition of responsibility.

Following the Command and Control turnover, the Corporate Emergency Director shall

have overall Command and Control of the Emergency Response. Note that the Station Emergency Director takes responsibility for onsite Non-Delegable Responsibilities including Classification and Emergency Exposure Control. The Corporate Emergency Director takes responsibility for offsite Non-Delegable Responsibilities including Protective Action Recommendations and State/local Notifications.

5.2.3 Major Functional Area: Notification/Communication

a. Major Tasks: Emergency Communications

ON-SHIFT

There are no proposed changes to the on-shift emergency communications function.

The regulations in Section IV.D.3 of Appendix E to 10 CFR 50 require that TMI have the capability to notify responsible State and local government agencies within 15 minutes after declaration of an emergency. The regulations in 10 CFR 50.72(a)(3) require that TMI notify the NRC immediately after notification of the appropriate State or local agencies and not later than 60 minutes after the time TMI declares one of the emergency classes.

TMI uses Nuclear Accident Reporting System (NARS) located in the Control Room, TSC, and the EOF to support the State and Local Notification function. The NARS is a system of dedicated phone circuits independent of the normal land-line phone system that utilizes an auto-ring feature. It is used to transmit information to the Pennsylvania Emergency Management Agency (PEMA) and the five (5) Risk Counties (e.g. Dauphin, Cumberland, Lebanon, York, and Lancaster) for UEs, Alerts, Site Area Emergency, and General Emergencies. This system is available on a 24-hour basis and incorporates all of the principal emergency response centers into a single dedicated network. In addition, each State Agency can be reached via normal commercial lines in the event of an issue with the NARS circuit.

NRC notifications were treated as a continuous action in accordance with 10 CFR 50.72(c)(3), meaning that once the initial NRC communications are established, it was assumed that the NRC will request an open line to be continuously maintained with the NRC Operations Center using the dedicated Emergency Notification System (ENS) network. The use of dedicated phone circuits and wireless headsets enables these notifications to be performed by the same on-shift communicator who performs the State notifications.

The on-shift notifications will be performed by a shift communicator. This can be performed by any qualified individual on shift (e.g. NCO or maintenance personnel); however, this individual can have no other Emergency Plan function until relieved. The on-shift notification function is currently augmented by two additional positions within 60 minutes of notification. These augmentation resources would report to the TSC for ENS communications and to the EOF for State/local communications. The augmented staff would assume the function once the facility is activated and would be managed by the applicable Emergency Director (ED).

The post-shutdown OSA validated that in a permanently defueled condition, the shift communicator can perform this required Emergency Plan action in a timely manner and that there are no collateral duties identified that would prevent the timely performance of

this emergency plan function.

The proposed level of the on-shift staffing continues to meet the planning standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50, commensurate with the reduced spectrum of credible accidents in the permanently defueled condition, and that TMI retains the ability to promptly implement the SFP mitigation actions.

AUGMENTED ERO

Current Requirements

Station staffs the following positions to support Emergency Communications function in the TSC:

- TSC Director (Minimum Staff 60-minute responder)
- ENS Communicator (Minimum Staff 60-minute responder)
- State and Local Communicator (Full Augmentation Staff)
- HPN Communicator (Full Augmentation Staff)

The following positions are staffed by the offsite ERO to support Emergency Communications in the EOF:

- EOF Director (Minimum Staff 60-minute responder)
- State and Local Communicator (Minimum Staff 60-minute responder)
- HPN Communicator (Minimum Staff 60-minute responder)
- ENS Communicator (Full Augmentation Staff)

Proposed Change

The following positions in the TSC will be eliminated:

- TSC Director (Minimum Staff 60-minute responder)
- State and Local Communicator (Full Augmentation Staff)
- HPN Communicator (Full Augmentation Staff)

The following 60-minute Minimum Staff positions in the EOF will be designated as Full Augmentation positions and will be removed from the SEP and be controlled in EPIPs:

- EOF Director
- HPN Communicator

The ENS Communicator in the EOF is a Full Augmentation position and will be removed from the SEP and be controlled in EPIPs.

Analysis

With the permanent cessation of operations and the permanent removal of the fuel from the reactor vessel at TMI, most of the accident scenarios postulated for an operating power reactor are no longer possible. As such, the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to an operating plant. The set of plant equipment involved in this permanently defueled condition is also greatly reduced, which also reduces the spectrum of mitigation activities for an emergency.

State and Local Emergency Communications

The State and Local emergency communication function is transferred from the on-shift communicator to the EOF State and Local Communicator. Currently the TSC provides a backup to the EOF in performing this emergency communication. The proposed change will remove this redundant capability, in that this emergency communication function will no longer be performed in the TSC. Since the proposed change has the State and Local communication bypassing the TSC and being assumed by EOF staff, the TSC State and Local Communicator can be eliminated.

The TSC Director position supports the Station ED and oversees activities within the TSC. Responsibilities include supervision of TSC ERO positions and functions. Under the TMI Station Emergency Plan, the TSC Director responsibilities do not directly perform actions necessary to accomplish Planning Standard functions under NUREG-0654, but rather supports other personnel at the TSC and therefore can be eliminated. The assessment and disposition of specific responsibilities and tasks for the TSC Director is addressed in Attachment 4 of this submittal. Essential tasks will be reassigned to other minimum staff personnel in the TSC.

The current plan requires that after transfer of the emergency communication function to the EOF, the State and Local Communicator in the EOF is tasked with performance of the State and Local emergency communication function, and this remains unchanged.

The EOF Director position is being made a full augmentation position not required to activate the EOF. The function to prepare the State and Local Notification form will be relocated to the EOF State and Local Communicator. The EOF Director position also supports the Corporate ED and oversees activities within the EOF. Responsibilities include supervision of EOF ERO positions and functions. The assessment and disposition of specific responsibilities and tasks for the EOF Director is addressed in Attachment 4 of this submittal. It is concluded that all the EOF Director's essential responsibilities and tasks necessary to activate the facility will be re-assigned to other ERO positions. As such, the EOF Director position can be made a full augmentation position without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor.

NRC Emergency Communications

The NRC Emergency Communication function is transferred from the on-shift communicator to the ENS Communicator in the TSC. The ENS Communicator in the TSC is a 60-minute responder required to activate the TSC. Since the Emergency Planning Function of Classification of Emergency Events remains with the TSC, maintaining the

ENS open line in the TSC ensures that reporting per 50.72(a)(3) is maintained. The full augmentation ENS Communicator in the EOF provides a backup function and can be removed from SEP and controlled through EPIPs without impacting the ability to maintain NRC emergency communications.

The HPN Communicator is tasked with providing updates to the NRC on radiological concerns. With the source term maintained in the SFP, there is only one release path through the Auxiliary Building release path, reducing the scope of information related to a TMI event. Since all dose assessment and control of the field monitoring teams will be transferred to the EOF, the HPN communicator in the TSC can be eliminated.

Due to the reduced scope of information, the HPN Communicator in the EOF will be made a full augmentation position, since this position would not be immediately required. The HPN Communicator will be removed from the SEP since this position does not describe a position necessary to implement the Emergency Plan planning standards and provides additional support to the Minimum Staff ERO personnel

The full augmentation positions in the EOF (EOF Director, EOF ENS Communicator, and HPN Communicator) will be removed for the SEP and will be managed and controlled by EPIPs. The full augmented positions will still be assigned to ERO teams, be expected to maintain Fitness-for-Duty during assigned duty weeks, and are required to respond to the EOF at an Alert or higher classification. These positions perform support functions that are not required for the activation of the EOF.

The proposed changes continue to ensure that the TMI Emergency Plan can continue to maintain communication requirements of 10CFR 50, Appendix E IV.D.3 and 10 CFR 50.72(a)3.

b. Major Tasks: Plant Status Communications

ON-SHIFT

There are no requirements for staffing this position for the on-shift staffing.

AUGMENTED ERO

Current Requirements

Operations Communicators are staffed in the Control Room and the TSC. The Operations Communicators are full augmentation positions, not required to activate the TSC.

Proposed Changes

The Operations Communicator position will be eliminated.

Analysis

Plant status communications is provided by the Operations Communicators stationed in the Control Room and TSC. These positions are not minimum staffing positions and not required for activation of TSC.

The main function of the Operations Communicator is to apprise the TSC Operations

Manager of overall plant conditions and significant changes to system and equipment status. Due to the reduced scope of information required to respond to an issue related to the management of an event in the spent fuel pool, the dedicated staffing of the Operations Communicator positions is not required. The Operations Manager can obtain the required information directly from the Shift Manager or Shift Supervisor. The assessment and disposition of specific responsibilities and tasks for the Operations Communicator is addressed in Attachment 4 of this submittal. It is concluded that all the Operations Communicator essential responsibilities and tasks will be re-assigned to other ERO positions. As such, the Operations Communicator position can be eliminated without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor or cause undue impact to the performance of the TMI Emergency Plan.

c. Major Tasks: In-Plant Team Control Communications

ON-SHIFT

There are no requirements for staffing this position for the on-shift staffing.

AUGMENTED ERO

Current Requirements

Damage Control Communicators are staffed in the Control Room, OSC and the TSC. The Damage Control Communicators are full augmentation positions, not required to activate the OSC and TSC.

Proposed Changes

The Damage Control Communicator position will be eliminated.

Analysis

In-Plant repair communications is provided by the Damage Control Communicators stationed in the Control Room, OSC and TSC. These positions are not minimum staffing positions and not required for activation of TSC.

The main functions of the Damage Control Communicator are to relay request from the Control Room and TSC for dispatching of the OSC teams, and apprise the station emergency response facilities of the status of OSC repair team activities. Due to the reduced scope of information required to respond to an issue related to the management of an event in the spent fuel pool, dedicated staffing of the Damage Control Communicators are not required.

The function will be maintained with communication from the OSC Director to the Maintenance Manager or Operations Manager. The assessment and disposition of specific responsibilities and tasks for the Damage Control Communicator is addressed in Attachment 4 of this submittal. It is concluded that all the Damage Control Communicator essential responsibilities will be re-assigned to other ERO positions. As such, the Damage Control Communicator position can be eliminated without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently

shutdown and defueled reactor or cause impact to the performance of the TMI Emergency Plan.

d. Major Tasks: Technical Activities Communications

ON-SHIFT

There are no requirements for staffing this position for the on-shift staffing.

AUGMENTED ERO

Current Requirements

A Technical Communicator is staffed in the TSC. The Technical Communicator is a full augmentation position, and is not required to activate the TSC.

Proposed Changes

The TSC Technical Communicator position will be eliminated.

Analysis

Technical activity communications are provided by the Technical Communicator stationed in the TSC. This position is not a minimum staffing position and not required for activation of TSC.

The main function of the TSC Technical Communicator is to provide the EOF with updates on technical support activities and priorities. Due to the reduced scope of information required to respond to an issue related to the management of an event in the spent fuel pool the dedicated staffing of the TSC Technical Communicators are not required.

This function will be maintained by Technical Manager in the TSC communicating to the EOF as necessary. The assessment and disposition of specific responsibilities and tasks for the TSC Technical Communicator is addressed in Attachment 4 of this submittal. It is concluded that all the TSC Technical Communicator essential responsibilities and tasks necessary to activate the facility will be re-assigned to other ERO positions. As such, the TSC Technical Communicator position can be eliminated without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor, or cause undue impact to the performance of the TMI Emergency Plan.

e. Major Tasks: Governmental Communications

ON-SHIFT

There are no requirements for staffing this position for the on-shift staffing.

AUGMENTED ERO

Current Requirements

This function is provided by the following full augmentation positions in the EOF.

- EOC Communicator
- State EOC Communicator
- Regulatory Liaison

Proposed Changes

The full augmentation positions (Regulatory Liaison, EOC and State EOC Communicators) are being removed from the SEP and will be managed and controlled by EPIPs.

Analysis

These positions provide the interface between Exelon Nuclear personnel and governmental agencies reporting to the EOF.

These three (3) EOF full augmentation positions are proposed to be removed from the SEP and will be managed and controlled by EPIPs. The full augmented positions will still be assigned to ERO teams, be expected to maintain Fitness-for-Duty during assigned duty weeks, and be required to respond to the EOF at an Alert or higher classification. These positions perform support functions that are not required for the activation of the EOF. The assessment and disposition of specific responsibilities and tasks for the these three (3) positions are addressed in Attachment 4 of this submittal. It is concluded that all of these positions do not have essential responsibilities nor tasks necessary to activate the facility. As such, these positions can be removed from the SEP and managed and controlled by EPIPs without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor.

Implementation of these proposed changes will not impact the ability of the EOF to provide the necessary interface with governmental agencies reporting to the EOF and will not cause undue impact to the performance of the TMI Emergency Plan.

5.2.4 Major Functional Area: Radiological Accident Assessment and Support of Operational Accident Assessment:

- a. Off-site Dose Assessment

ON-SHIFT

Current Requirements

RP Personnel are assigned as the on-shift Dose Assessor.

Proposed Changes

On-shift dose assessment will be designated as a collateral duty. The function will be assigned to available on-shift personnel.

Analysis

The purpose of conducting the off-site dose assessment is to review radiological conditions using data from available instrumentation, assess the impact of changing radiological conditions on emergency classification, assist in accident assessments based upon those changing radiological conditions, and recommend appropriate off-site protective measures. Dose assessment will no longer be required to evaluate the Condenser Off-gas, Reactor Building, and Steam Generator release paths, since with the permanent defueled status will prohibit operation of the reactor, and these paths are only applicable to an operating unit. The only path that will be required to be assessed is the Auxiliary Building Ventilation path in which the Spent Fuel Pool source term potentially could be discharged.

This function is currently performed by the on-shift staff (i.e., RP Technician) and augmented by EOF personnel within 60 minutes of notification. EOF personnel assume the off-site dose assessment function once the EOF is activated.

Radiation Protection Technicians and Shift Supervisors/CFHs will be trained to perform dose assessment on shift. The OSA evaluation of a FHA employs the Shift Supervisor to perform the dose assessment function. The use of the Shift Supervisor to support the on-shift dose assessment is appropriate for a permanently shutdown and defueled condition since many of the potential initiating conditions that would lead to an emergency declaration are no longer credible. The set of plant equipment involved in this condition is also greatly reduced, which also reduces the need for assessments and mitigation activities in the Control Room for an emergency.

Implementation of these proposed changes will not impact the ability of on-shift personnel to provide timely and accurate dose assessment and will not cause undue impact to the performance of the TMI Emergency Plan.

AUGMENTED ERO

Current Requirements

The Dose Assessment Coordinator in the EOF is a 60-minute Minimum Staff responder. The following positions are full augmentation not necessary to support minimum staffing of the ERFs.

- Radiation Controls Coordinator in the TSC
- Dose Assessor in the EOF

Proposed Changes

The Radiation Controls Coordinator position in the TSC is being eliminated.

The full augmentation Dose Assessor position in the EOF is removed from the SEP and

will be controlled in EPIPs.

Analysis

The dose assessment task currently can be supported in the TSC by the Radiation Controls Coordinator (RCC) and ultimately transferred to the Dose Assessment Coordinator in EOF. The dose assessment function may directly transfer from on-shift to the EOF with no performance of these tasks in the TSC. The tasks of the TSC RCC was evaluated in Attachment 4 and the TSC Radiation Protection Manager will assume any essential tasks conducted by the RCC. Therefore, the RCC position in the TSC is being eliminated.

The EOF will relieve the on-shift dose assessor upon activation of the EOF. The EOF Dose Assessment Coordinator, a 60-minute Minimum Staff position in the EOF is responsible for this function.

The EOF Dose Assessor is currently a full augmentation position not required to support facility activation. All essential tasks necessary to support facility activation performed by the EOF Dose Assessor will be assigned to the EOF Dose Assessment Coordinator. The Dose Assessor position performs support functions that are not required for the activation of the EOF and can be removed from the SEP and will be managed and controlled by EPIPs. The full augmented positions will still be assigned to ERO teams, be expected to maintain Fitness-for-Duty during assigned duty weeks, and are required to respond to the EOF at an Alert or higher classification.

Implementation of these proposed changes will not impact the ability of the augmented staff to provide timely and accurate dose assessment and will not cause undue impact to the performance of the TMI Emergency Plan.

b. Major Tasks: Offsite Surveys

ON-SHIFT

There are no requirements for staffing this position for the on-shift staffing.

AUGMENTED ERO

Current Requirements

There are two (2) off-site field monitoring teams (FMTs), each team consisting of a lead and a driver. These are staffed by station personnel and are 60-minute responders.

These two (2) FMTs report to the Environmental Coordinator in EOF, who is a minimum staff 60-minute responder. There is a field Team Communicator in the EOF, and this position is a full augmentation position not required for EOF activation.

Proposed Changes

One of the two (2) offsite FMTs will be designated as 90-minute responders.

The Environmental Coordinator position is being made a full augmentation position and is not required to assume responsibility for the field monitoring teams.

The full augmentation positions in the EOF, the Environmental Coordinator, and the Field Team Communicator, will be removed from the SEP and will be managed and controlled in EIPs.

Analysis

Currently the Offsite FMTs are staffed, consisting of a qualified lead and a driver, within 60 minutes of the declaration of an Alert or higher. This offsite FMT is responsible for locating, monitoring, and tracking a radioactive plume, as well as obtaining environmental samples as necessary (e.g., air, water, vegetation, etc.). The qualified lead is trained in plume monitoring and air sample collection, but need not be an ANSI-qualified RP technician as long as the FMT is under the direct supervision of Radiation Protection senior staff in the EOF. The FMTs report to the TSC to obtain equipment and vehicles, and receive the initial dispatch brief from the TSC RPM and then receive direction from the EOF when dispatched. These current requirements will remain unchanged.

The proposed change will designate one of the FMTs as 90-minute responder. An additional 30 minutes in augmentation response time is acceptable in that this second FMT is a backup to the first FMT, and while both FMTs are expected to respond to an event to better coordinate radioactive plume tracking action(s), allowing for an additional 30 minutes provides some flexibility in staffing this ERO function without compromising the 'reasonable assurance finding' in accordance with 10 CFR 50.47(a). The second field monitoring team is not required for TSC or EOF activation.

The following changes are proposed for the EOF Protective Measures Group. The Environmental Coordinator is currently a 60-minute responder who reports to the EOF Radiation Protection Manager. This position directs the Field Team Communicator and Field Monitoring Teams. The tasks of the EOF Environmental Coordinator were evaluated and discussed in Attachment 4. The tasks for managing the Field Monitoring Teams are to be transferred to Dose Assessment Coordinator. The remaining essential tasks performed by the Environmental Coordinator will be transferred to the EOF Radiation Protection Manager. The Environmental Coordinator will be designated as a full augmentation position not required to support the activation of the EOF.

The Field Team Communicator is currently a full augmentation position not required to activate the EOF. A review of the tasks performed by the Field Team Communicator is shown in Attachment 4. The essential tasks necessary to control the Field Monitoring Teams have been transferred to the EOF Dose Assessment Coordinator.

Both the Environmental Coordinator and the Field Monitoring Communicator will be removed from the SEP and will be managed and controlled by an EIP. The full augmented positions will still be assigned to ERO teams, be expected to maintain Fitness-for-Duty during assigned duty weeks, and are required to respond to the EOF at an Alert or higher classification.

Implementation of these changes do not impact the overall effectiveness of the EOF protective measures group to perform the necessary Emergency Planning Functions and will not cause undue impact to the performance of the TMI Emergency Plan.

c. Major Tasks: Onsite Surveys

ON-SHIFT

There are no requirements for staffing this position for the on-shift staffing.

AUGMENTED ERO

Current Requirements

The current TMI Emergency Plan staffs one (1) on-site FMT, comprised of a qualified lead and driver. These positions are currently 60-minute responders who respond to the site to obtain equipment and vehicle.

Proposed Changes

TMI proposes to reduce on-site FMT from two (2) to one (1) individual. The on-site team will no longer include a driver.

Analysis

The TMI on-site FMT will no longer include a driver. Due to the configuration and size of the site within and around the Protected Area (PA) and the limited available roads in that area, a vehicle would not be needed to traverse the site.

The on-site surveys encompass the zone outside of the PA but within the owner controlled area. The remaining individual will remain trained in plume monitoring and air sample collection, is not needed to be an ANSI-qualified RP technician as long as the FMT is under the direct supervision of the TSC RPM. The individual performing on-site surveys will report to the TSC to obtain equipment, and receive the initial dispatch brief from and remain under control of the TSC RPM. These current requirements will remain unchanged.

Implementation of these changes do not impact the overall effectiveness to perform the necessary Emergency Planning Functions and will not cause undue impact to the performance of the TMI Emergency Plan.

d. Major Tasks: In-Plant Surveys

ON-SHIFT

There are no changes proposed for this function.

TMI will continue to have the resources available to provide initial and continuing information for accident assessment throughout the course of an event, including plant parameter display systems and Area and Process Radiation Monitoring Systems.

The current level of the on-shift staffing continues to meet the planning standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50, commensurate with the reduced spectrum of credible accidents in the permanently defueled condition, and that TMI retains the ability to promptly implement the SFP mitigation actions.

AUGMENTED ERO

There are no tasks for the Augmented ERO for this function.

e. Major Tasks: Chemistry

ON-SHIFT

Current Requirements

The current TMI Emergency Plan staffs one (1) chemistry technician on-shift.

Proposed Changes

TMI proposes to remove the requirement for a chemistry technician to be on shift. The function to sample and analyze a spent fuel pool samples will be retained as a collateral duty.

Analysis

The on-shift Chemistry Technician performs chemistry/radiochemistry tasks in support of the Functional Area "Radiological Accident Assessment and Support of Operational Accident Assessment." The Chemistry Technician is responsible for performing all post-accident chemistry samples and analyses, and supporting operations in the area of chemistry as directed by the Shift Manager. Note there were no time sensitive sample activities identified in the current OSA. The Chemistry Technician is currently an on-shift position.

TMI will either maintain a Chemistry Technician on shift or qualify an existing on-shift person to perform sampling and analysis at various locations throughout the plant. If a Chemistry Technician is placed on shift, the Chemistry Technician may be assigned other collateral duties (e.g., Fire Brigade). After shutdown, it may be feasible to utilize a cross-qualified RP Technician to satisfy the chemistry function.

If utilized, the designated on-shift person will be trained on how to analyze samples using a Multi-Channel Analyzer (MCA). These analyses will be performed using approved station procedures and a computerized MCA menu which guides the technician to select the correct counting geometry for various sample types.

Specific knowledge requirements would include how to obtain specific liquid samples. The initial training requirements for the designated on-shift person will include all training modules to ensure they are equipped with the required skills and knowledge to perform the required liquid sampling and analysis. These training modules will be specifically identified in their training program description for the designated on-shift person position. This training is currently being developed in accordance with the requirements of 10 CFR 50.120.

For gaseous releases, the only credible scenario would be to mechanically damage spent fuel during handling or by impact of a heavy object. Plant activities that could potentially cause mechanical damage (i.e., fuel moves in the SFP) will require that the radiation monitor as listed in the gaseous effluent EALs be in service or that a Chemistry Technician

be on-site, thereby alleviating a potential delay in sample analysis to determine EAL applicability. Applicable fuel handling procedures will be revised to incorporate this as a prerequisite prior to fuel handling activities. Additionally, the post-shutdown OSA validated that no chemistry job tasks were noted as being required within the first 90 minutes of any of the analyzed events.

The NRC requires that TMI's Emergency Plan be at a level of effectiveness commensurate with the potential consequences to public health and safety and common defense and security at the TMI site. With the permanent cessation of operations and the permanent removal of the fuel from the reactor vessel at TMI, most of the accident scenarios postulated for an operating power reactor are no longer possible. The reactor, Reactor Coolant System (RCS), and reactor support systems are no longer in operation and have no function related to the storage of the irradiated fuel. Therefore, postulated accidents involving failure or malfunction of the reactor, RCS, or reactor support systems are no longer applicable.

The proposed change to the level of on-shift staffing maintains the sampling function and continues to meet the planning standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50, commensurate with the reduced spectrum of credible accidents in the permanently defueled condition, and ensures that TMI retains the ability to promptly implement the SFP mitigation actions.

AUGMENTED ERO

Current Requirements

The current TMI Emergency Plan staffs one (1) chemistry technician in the OSC as a pooled position.

Proposed Changes

TMI proposes to eliminate the OSC Chemistry Pool position.

Analysis

The need to perform complex chemistry sampling is greatly reduced with the permanent cessation of operation of the reactor and the source term confined to the spent fuel pool. There is no need to dispatch an OSC pool position to support sampling. The on-shift staffing will be adequate to perform sampling of the spent fuel pool. However, if conditions warrant, Chemistry personnel are available to be called in by the OSC Director.

Implementation of these changes do not impact the overall effectiveness to perform the necessary Emergency Planning Functions and will not cause undue impact to the performance of the TMI Emergency Plan.

5.2.5 Major Functional Area: Plant System Engineering, Repair and Corrective Action

a. Major Task: Technical Support

ON-SHIFT

Current Requirements

The current TMI Emergency Plan staffs one (1) Shift Technical Advisor/Incident Assessor on-shift.

Proposed Changes

TMI proposes to eliminate the Shift Technical Advisor/Incident Assessor from the on-shift staffing.

Analysis

The emergency planning function of the STA/Incident Assessor (IA) is to perform assessments of plant operating concerns, technical support, appropriate corrective actions, analysis of events and their effects, effectiveness of response(s) to emergent conditions, classifications of emergencies, protection of the public, and any other actions related to critical safety functions and plant safety during abnormal and emergency situations. The STA/IA also contributes to operations during normal plant conditions. By routine monitoring of equipment and plant operations, the STA/IA can focus on preventative actions in order to mitigate the consequences of an accident. Additionally, the STA/IA provides the core/thermal hydraulics function of the emergency plan for the confirmation of adequacy of core cooling, maintenance of coolable core geometry, and to verify that actual plant response to the event is as expected until relieved by the TSC Core Thermal Hydraulic Engineer within 60 minutes of notification.

Because of the permanent cessation of operations and removal of fuel from the reactor vessel, TMI proposes to eliminate the STA/IA position from the emergency plan, since this condition no longer makes the position necessary for technical and analytical assistance for plant operational concerns during abnormal and emergency situations, analysis of events and their effects, or the on-shift core/thermal hydraulics function of the emergency plan, as described previously. Additionally, TMI License Amendment Request "Proposed Changes to Technical Specifications Section 6.0 Administrative Controls for Permanently Defueled Condition" dated November 10, 2017 (Reference 8.2), has been submitted to delete the STA/IA from the TMI Technical Specifications.

The on-shift technical support function for the remaining accident scenarios associated with the storage of spent fuel will be assumed by the Control Room personnel. TMI's post-shutdown OSA validated that the on-shift Shift Manager/CFH and Shift Supervisor/CFH can perform any required technical analysis associated with the storage of spent fuel until augmented by the TSC Technical Manager.

The NRC requires that TMI's Emergency Plan be at a level of effectiveness commensurate with the potential consequences to public health and safety and common defense and security at the TMI site. With the permanent cessation of operations and the permanent removal of the fuel from the reactor vessel at TMI, most of the accident

scenarios postulated for an operating power reactor are no longer possible. The irradiated fuel is stored in the SFP or at the ISFSI, when constructed, and will remain on-site until it can be moved off-site for long-term storage or disposal. The reactor, RCS, and reactor support systems are no longer in operation and have no function related to the storage of the irradiated fuel. Therefore, postulated accidents involving a failure or malfunction of the reactor, RCS, or reactor support systems are no longer applicable. During reactor decommissioning, the principal public safety concerns involve the radiological risks associated with the storage of spent fuel on-site. The proposed level of on-site operations staff will continue to provide for communication and coordination capabilities with off-site organizations for the level of support required for the remaining DBAs and the prompt implementation of mitigative actions in response to an SFP accident. The Shift Manager/CFH or Shift Supervisor/CFH will maintain the capability to perform the function of on-shift technical analysis for the limited applicable accident scenarios associated with the storage of spent fuel.

AUGMENTED ERO

Current Requirements

The current TMI Emergency Plan staffs the following positions in the TSC provide technical support:

- Technical Manager (Minimum Staff – 60-minute responder)
- Core/Thermal Hydraulics Engineer (Minimum Staff – 60-minute responder)
- Mechanical Engineer (Minimum Staff – 60-minute responder)
- Electrical Engineer (Minimum Staff – 60-minute responder)
- Operations Manager (Minimum Staff – 60-minute responder)
- Radiation Controls Engineer (Full Augmentation Staff)
- SAMG Decision Maker (Collateral Duty)
- SAMG Evaluator #1 (Collateral Duty)
- SAMG Evaluator #2 (Collateral Duty)

Proposed Changes

TMI proposes to eliminate the following positions:

- Core/Thermal Hydraulics Engineer (Minimum Staff – 60-minute responder)
- Mechanical Engineer (Minimum Staff – 60-minute responder)
- Electrical Engineer (Minimum Staff – 60-minute responder)

- Radiation Controls Engineer (Full Augmentation Staff)
- SAMG Decision Maker (Collateral Duty)
- SAMG Evaluator #1 (Collateral Duty)
- SAMG Evaluator #2 (Collateral Duty)

Analysis

With the permanent cessation of operations and the permanent removal of the fuel from the reactor vessel at TMI, most of the accident scenarios postulated for an operating power reactor are no longer possible. As such, the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to an operating plant. The set of plant equipment involved in this permanently defueled condition is also greatly reduced, which also reduces the spectrum of mitigation activities for an emergency.

The Engineering function will continue to be maintained by TSC Technical Manager who is an TMI staff engineer. The TSC Technical Manager will be qualified to provide engineering support in response to a fuel handling accident or an event resulting in damage to the SFP integrity or loss of SFP cooling or inventory.

Elimination of the TSC Core Thermal/Hydraulic Engineer position will have no effect on emergency response in a permanently defueled condition because the position does not assess the condition of fuel in the SFP during an emergency. TSC Core Thermal/Hydraulic Engineers have expertise in the area of core damage assessment and core parameter monitoring. The Core Damage Assessment Tool used by the TSC Core Thermal/Hydraulic Engineers does not address assessments of SFP fuel damage. However, the Dose Assessment Program utilized by the Dose Assessment Coordinator/Dose Assessor does include in its assessment, spent fuel damage in the SFP. The TSC Core Thermal/Hydraulic Engineer supports this assessment by providing needed information; however, the information is not specific to the TSC Core Thermal/Hydraulic Engineer qualification and can be provided by the Technical Manager. The information includes information such as age of fuel, location, or whether the fuel is exposed or covered by water. This position can be eliminated without increasing the risk to public health and safety because the major task of evaluating core/thermal hydraulics is not necessary in a permanently shutdown and defueled condition. A review of major tasks of the Core/Thermal Hydraulics Engineer is provided in Attachment 4, and no essential tasks were identified to support Emergency Planning Functions.

The Mechanical and Electrical Engineer positions in the TSC are being eliminated. The TSC Engineers' responsibilities include providing engineering support in response to an accident condition. The Engineering function will continue to be maintained by the TSC Technical Manager.

The assessment and disposition of specific responsibilities and tasks for the TSC Engineers is addressed in Attachment 4 of this submittal. It is concluded that all the TSC Engineers' responsibilities and tasks can either be eliminated or re-assigned to other ERO positions. As such, the TSC Electrical and Mechanical Engineer position can be

eliminated without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor. If additional Engineering support is identified as needed at any time during the response to the Emergency condition, additional engineering support can be obtained through call-outs.

The Radiation Controls Engineer (RCE) in the TSC is being eliminated. This position is tasked with coordinating the radiological and chemistry interface between the technical support engineering efforts. A review of major tasks of RCE is provided in Attachment 4, and the TSC Radiation Protection Manager will assume any essential tasks conducted by the RCE.

The SAMG Decision Maker and the two (2) SAMG evaluators in the TSC are being eliminated. The implementation of the Severe Accident Management Guidelines (SAMGs) do not support the Emergency Plan Planning Functions, but provide beyond design basis evaluations for plant recovery. In the permanently shutdown and defueled condition, the need to implement SAMGs will no longer be required.

The proposed change to the level of augmented ERO staffing continues to meet the planning standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50, commensurate with the reduced spectrum of credible accidents in the permanently defueled condition, and ensures that TMI retains the ability to promptly implement the SFP mitigation actions.

b. Major Task: Repair and Corrective Actions

ON-SHIFT

There are no proposed changes to this function. The current TMI Emergency Plan staffs one (1) OCS Director/Repair Team Lead in the OSC, one (1) Mechanical Maintenance in the OSC, and one (1) Electrical Maintenance / Instrument and Control (I&C) in the OSC. Each of these positions are labeled as collateral duties.

The current level of the on-shift staffing continues to meet the planning standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50, commensurate with the reduced spectrum of credible accidents in the permanently defueled condition, and that TMI retains the ability to promptly implement the SFP mitigation actions.

AUGMENTED ERO

Current Requirements

The current TMI Emergency Plan staffs one (1) Maintenance Manager in the TSC, and one (1) OCS Director/Repair Team Lead in the OSC, one (1) Mechanical Maintenance Technician, one (1) Electrical Maintenance Technician, as Minimum Staff (60-minuteresponders). In addition, one (1) I&C Maintenance Technician is a minimum staff responder with a 90-minute response time.

TMI also staffs the Assistant OSC Director in the OSC as a full augmentation position. There is also an Operations Lead and Support Personnel, in an as needed full augmentation positions.

Proposed Changes

TMI proposes to eliminate the I&C Maintenance Technician and the full augmentation positions (Assistant OSC Director, Operations Lead and Support Personnel).

Analysis

TMI proposes to only maintain the OSC Director position, and a pool of one (1) Mechanical Maintenance Technician and one (1) Electrical Maintenance Technician, to support repair and corrective actions. Note that RP support to the OSC is discussed in Section 5.2.6 of this submittal. The OSC Director will report to the Maintenance Manager in the TSC. If at any time the OSC Director determines that additional support is necessary to accomplish the mission of the OSC, the OSC Director will contact the EOF to arrange for support by additional personnel.

TMI ERO staffing, as required by the TMI Emergency Plan, is intended to address the risks to public health and safety inherent in an operating reactor. The risk in the permanently shutdown and defueled condition is significantly reduced. Many of the potential initiating conditions that would lead to an emergency declaration will no longer be credible. The set of plant equipment required in the permanently shutdown and defueled condition is also greatly reduced, which reduces the assessments and mitigation activities that the OSC must perform. The spectrum of credible accidents and operational events, and the quantity and complexity of activities required for safe storage of spent fuel is reduced, as compared to an operating power reactor. Restoration of equipment supporting spent fuel cooling and inventory will be the primary focus of emergency mitigation actions for the TSC/OSC in a permanently shutdown and defueled condition.

In the permanently shutdown and defueled condition there is no longer any complex automatic control systems in service. The need for dedicated I&C maintenance technicians are not required. If conditions warrant, the OSC Director can call out I&C support as necessary.

The primary events of concern in the immediate post-shutdown and defueled condition will be a fuel handling accident and a loss of SFP cooling and/or water inventory. Events involving a loss of SFP cooling and/or water inventory can be addressed by implementation of the SFP inventory makeup strategies, as required under License Condition 2.c.(17), "Mitigation Strategy License Condition" and 10 CFR 50.54(hh)(2). OSC staff is not relied upon to implement SFP inventory makeup. As such, elimination of the I&C Maintenance Technician, Assistant OSC Director, Operations Lead, positions do not impact the ability of the ERO to perform the required function based on the permanent shutdown and defueled condition of the facility.

The proposed change to the level of ERO staffing continues to meet the planning standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR Part 50, commensurate with the reduced spectrum of credible accidents in the permanently defueled condition, and ensures that TMI retains the ability to promptly implement SFP mitigation actions.

c. Major Task: Accident Analysis

ON-SHIFT

There are no requirements for staffing this position for the on-shift staffing.

AUGMENTED ERO

Current Requirements

The current TMI Emergency Plan has the following Full Augmented staff in the EOF to support the accident analysis function:

- Technical Support Manager
- Operations Advisor
- Operations Assistant
- Technical Advisor

Proposed Changes

TMI proposes to eliminate the following full augmentation positions:

- Operations Advisor

The following full augmentation positions will be removed from the SEP and controlled and managed by EPIPs:

- Technical Support Manager
- Operations Assistant
- Technical Advisor

Analysis

The complexity of activities required for safe storage of spent fuel is reduced, as compared to an operating power reactor. Restoration of equipment supporting spent fuel cooling and inventory will be the primary focus of emergency mitigation actions for the TSC/OSC in a permanently shutdown and defueled condition. In addition, the elimination of credible accidents involving an operating power reactor provides additional time to plan and execute assessment and mitigation actions.

The Operations Advisor position in the EOF is staffed with station personnel with an operations background familiar with the TMI Emergency Operating Procedures. In addition, to providing TMI specific operational impacts, this position would provide input to the EOF ENS Communicator; and inform EOF Radiation Protection Manager on Plant Status for PAR decision making. As shown in Attachment 4, all tasks of the EOF Operations Advisor will be eliminated. With permanent cessation of plant operations all

EOPs will no longer be applicable. The ENS communications will remain with the TSC and the EOF ENS communicator position is being maintained as a backup to the TSC ENS communicator. Plant based PARs will be simplified with cessation of plant operations. The Operations Advisor position in the EOF can be eliminated without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor.

The EOF Technical Support Manager (TSM) directs the activities of the Technical Support Group. A review of major functions of the Technical Support Manager is provided in Attachment 4, and the function to provide information to the State and Local Communicator for completing the state/local notification form is assigned to the Corporate Emergency Director. No essential functions were identified to support Emergency Planning Functions. Therefore, the TSM can be relocated to a full augmentation position and be controlled via EPIPs without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor.

The Technical Advisor position and the Operations Assistant in the EOF provides support to other positions in the EOF. As shown in Attachment 4, there were no essential task required for support of Emergency Planning Functions. The Technical Advisor and the Operations Assistant positions in the EOF can be removed from the SEP and relocated to EPIPs without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor.

The full augmented positions will still be assigned to ERO teams, be expected to maintain Fitness-for-Duty during assigned duty weeks, and are required to respond to the EOF at an Alert or higher classification.

Implementation of these changes do not impact the overall effectiveness to perform the necessary Emergency Planning Functions and will not cause undue impact to the performance of the TMI Emergency Plan.

5.2.6 Major Functional Area: Protective Actions (In-Plant)

ON-SHIFT

There are no proposed changes to this function. TMI's Emergency Plan currently has assigned two (2) RP Technicians for this functional area.

AUGMENTED ERO

Current Requirements

TMI augments the two (2) on-shift RP Technicians with four (4) additional RP personnel.

Proposed Changes

TMI proposes to eliminate three (3) of the four (4) augmented RP personnel.

Analysis

The function of these resources is to provide radiation protection oversight of the complement of personnel for damage repair, corrective actions, search and rescue, first aid, firefighting and personnel monitoring. Once the ERO is activated, the two (2) on-shift RP technicians will join the augmented RP personnel providing three (3) RP personnel to support station emergency plan activities.

In the past, radiological access control was a labor-intensive task. Dedicated RP Technicians were required to check dose margins, training qualifications, and to ensure that workers had read and understood their radiation work permit. The radiological staffing in the current TMI SEP still reflects this labor intensive radiological access control and monitoring process. However, worker access control is now automated because RP work processes have been computerized. Radiation work permit access control and electronic dosimeter computer systems work together to provide a fully integrated system, allowing workers to sign-in on their radiation work permit and to self-issue electronic dosimeters. The electronic dosimeter provides the worker with a continuous status of dose received and work area dose rates, and will alarm at preset dose and dose rate alarms. An annual Radiation Work Permit dedicated for emergency plan response will be written and available on the first day of each year which will pre-authorize access for emergency response personnel in accordance with emergency plan implementing procedures. Site personnel will be notified of the Radiation Work Permit via site wide email and shift turnover as part of the annual reminder to review new Radiation Work Permits. No additional training will be necessary as use of Radiation Work Permits is addressed in radiation worker training.

Access control is maintained because the worker must obtain an electronic dosimeter and enter a radiation work permit number into the access control computer system, prior to being allowed access into the Radiologically Controlled Area (RCA). Additionally, personnel are required and trained to self-monitor for radioactive contamination whenever they exit the RCA. NUREG-0654, Table B-1 indicates that protective action (in-plant) tasks may be performed by qualified shift personnel assigned other emergency response functions/tasks. TMI relies on the availability of computer systems, electronic dosimeters, and enhanced processes to relieve RP Technicians of access control, personnel monitoring and dosimetry tasks; thereby, freeing the RP Technician to cover any vital response activities. Note that workers are not trained to remove tools/equipment from Radiological Controlled areas. Removing tools and/or equipment from the RCA would require monitoring by a qualified RP Technician, as is currently required by station procedures.

For a permanently shutdown and defueled condition, the evaluated Design Basis Accidents are limited to Spent Fuel Pool area. Because entry is expected to be limited to those areas where maintenance necessary to maintain SFP cooling is required and the areas potentially affected by an accident involving the SFP are limited, there is a significant decrease in the areas potentially requiring RP coverage in a permanently shutdown and defueled condition. Multiple repair teams can be covered by the on-shift Radiation Protection personnel. If RP coverage is not provided (for entry into areas with low radiological risk or known radiological status), work protection is still ensured since emergency workers are required to wear electronic dosimeters (which will alarm at preset dose and dose rate set points) and because of the installed area radiation monitors that

alarm locally and remotely at preset dose rates located throughout the plant.

Therefore, three (3) RP personnel will be capable to providing adequate protective actions to support plant activities in the permanently shutdown and defueled conditions. The proposed change to the level of on-shift staffing continues to meet the planning standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50, commensurate with the reduced spectrum of credible accidents in the permanently defueled condition, and ensures that TMI retains the ability to promptly implement the SFP mitigation actions.

5.2.7 Major Functional Area: Fire Fighting

ON-SHIFT

Current Requirements

The current TMI Emergency Plan staffs six (6) members of the Station Fire Brigade per the Stations Fire Plan. The plan consists of one (1) Fire Brigade Team Leader, and four (4) Fire Brigades team members. TMI includes a licensed operator as the sixth member to provide oversight and operational insight.

Proposed Changes

The SEP will be revised to reflect that the Fire Brigade will be staffed per the TMI Fire Protection Program. Upon a successful evaluation and approval of an incipient Fire Brigade in accordance with 10 CFR 50.48(f), the Fire Brigade compliment will be reduced to three (3). This is anticipated to occur sometime following shutdown. Until the 50.48(f) Fire Brigade evaluation is completed, the Fire Brigade will consist of five (5) persons. Minimum Staffing Table TMI B-1 Note (e) is revised to reflect this statement. The requirement for a licensed operator (Nuclear Station Operator - NSO) to provide oversight of the fire brigade will be eliminated.

Analysis

The current SEP requires six (6) individuals for the fire protection function per the stations fire protection program. The current fire brigade staffing per the Fire Protection Program is 5 members, that are not part of minimum shift crew necessary for safe shutdown of the unit. The current fire protection plan requires a fire brigade team lead, and four (4) brigade members, consisting of at least two (2) Non-licensed Auxiliary Operators (NLO) and two (2) other fire brigade qualified members. In addition, the current fire protection program requires a Fire Brigade advisor that is a licensed operator; however, the current Fire Protection Plan recognizes that if the Fire Brigade Leader has Equipment Operator level of knowledge, then a Fire Brigade Advisor is not required to be dispatched.

The proposed change will require that the fire brigade be maintained per the Stations Fire Protection Plan. The current Station Fire Protection Plan maintains a five (5) member Fire Brigade; however, with the cessation of operation, as described in Section 5.2.1, the NLO position is replaced with the Non-Certified Operator (NCO) position. The fire brigade team leader will be a qualified NCO who has Equipment Operator level of knowledge. In addition, the two (2) maintenance positions can be filled by either Operations NCOs or Maintenance personnel. The fire protection plan will define qualifications requirements for fire brigade members.

When conditions are satisfied per 50.48(f) for staffing an incipient fire brigade, staffing may be reduced to three (3) members. These will be staffed by Operations personnel. This change to fire brigade staffing to support the incipient fire will be reviewed in accordance with LS-AA-128, "Regulatory Review of Proposed Changes to the Approved Fire Protection Program", to ensure changes can be made without prior NRC approval.

The Fire Brigade is in addition to the Operations minimum staff (3) described in Section 5.2.1, since the fire brigade shall not include members of the minimum shift crew required for other essential functions during a fire emergency. The fire brigade team will be able to support the Shift Manager in Repair and Corrective Action activities when not engaged in performing firefighting duties, and are credited with performing mitigation strategies required by 50.54(hh) and FLEX strategies for the SFP. When the incipient fire brigade staffing is implemented it will remain adequate to support mitigating and FLEX strategy actions.

Therefore, the fire brigade will be capable to providing adequate firefighting capabilities to support plant activities in the permanently shutdown and defueled conditions. The proposed change to the level of on-shift staffing continues to meet the planning standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50, commensurate with the reduced spectrum of credible accidents in the permanently defueled condition, and ensures that TMI retains the ability to promptly implement the SFP mitigation actions.

5.2.8 Major Functional Area: First Aid and Rescue Operations

ON-SHIFT

There are no proposed changes to this function. The TMI Emergency Plan will continue to staff this function as a collateral duty. This applies to the on-shift staff only.

5.2.9 Major Functional Area: Site Access Control and Personnel Accountability

a. Major Task: Security & Accountability

ON-SHIFT

There are no changes for this function. The current TMI Emergency Plan states the on-shift security staff will perform the security and accountability function, reporting to the Shift Emergency Director (Shift Manager), until relieved by the Security Coordinator in the TSC.

AUGMENTED ERO

Current Requirements

The Security Coordinator is a full augmentation position in the TSC and EOF. The TSC Security Coordinator is staffed by TMI Security Personnel, and the EOF Security Coordinator position will be staffed by Corporate personnel.

Proposed Changes

The TSC Security Coordinator will be designated as a minimum staff, 60-minute

responder.

The EOF Security Coordinator position will be removed from the SEP and managed and controlled by EPIPs.

Analysis

The TSC Security Coordinator is designated as a minimum staffing to support the Station Emergency Director in establishing Accountability and Site Evacuation, and responding to security or hostile-action based events. Accountability and Site Evacuation are required at a classification of Site Area Emergency, but may directed by the Station Emergency Director prior to declaring a Site Area Emergency, if deemed necessary.

The EOF Security Coordinator provides backup to the TSC Security Coordinator and only performs support functions and is not required to support activation of the EOF. Therefore, the EOF Security Coordinator full augmentation position is proposed to be removed from the SEP and will be managed and controlled by EPIPs. The full augmented positions will still be assigned to ERO teams, be expected to maintain Fitness-for-Duty during assigned duty weeks, and are required to respond to the EOF at an Alert or higher classification.

Implementation of these changes do not impact the overall effectiveness to perform the necessary Emergency Planning Functions and will not cause undue impact to the performance of the TMI Emergency Plan.

5.2.10 Major Functional Area: Resources Allocation and Administration

a. Major Task: Logistics / Administration

ON-SHIFT

There are no requirements for staffing this position for on-shift staffing.

AUGMENTED ERO

Current Requirements

The following positions are identified in TMI Table B-1 to support the Logistics / Administration function.

The Logistics Manager in the EOF is a Minimum Staff position.

The following are full augmentation positions:

- Logistics Coordinator in TSC
- Administrative Coordinator in EOF
- Events Recorder in the EOF
- Computer Specialist in the EOF

The Clerical Staff in the TSC, OSC, and EOF is listed as full augmentation as needed.

Proposed Changes

The Computer Specialist position in the EOF is will be staffed as a Minimum Staff position with a 90-minute response time. This position will not be required to activate the EOF.

The Logistics Manager, a 60-minute Minimum Staff position in the EOF, will be designated as Full Augmentation.

The Logistic Coordinator position in the TSC will be eliminated.

The following full augmentation positions, Logistics Manager, Events Recorder, and Administrative Coordinator in the EOF, will be removed from the SEP and will be managed and controlled by EPIPs.

Analysis

These positions provide support activities for the ERO, and the functions as currently defined in the Emergency Plan, would not be considered as part of the minimum ERO needed to implement the emergency plan (i.e., if any position or function is not staffed then the emergency plan may not be effectively implemented).

The proposed change will designate the EOF Computer Specialist to a minimum staff position with a 90-minute response time. Although this position is designated as Minimum Staff it will not be required to activate the EOF, but is intended to provide support necessary support to Federal and State officials with implementation of the EOFs technology assets. TMI's EOF and TSC contain multiple computers and programs in the facility which support EP functions. This includes Plant Process Computer Display Systems, and dose assessment computer programs, as well as Web EOC, fax and copy machines. Performance during drills and Exercises demonstrates a satisfactory functionality of the digital assets in the facilities. The communications and dose assessment computer program equipment is periodically tested and issues, if any identified, are promptly addressed. The facilities and respective digital equipment are frequently used through administration of training for each team, as well as drills and Exercises. Additionally, Exelon maintains an Information Technology (IT) Help Desk 24 hours per day, 7 days a week. Many computer issues can be addressed remotely with an IT specialist at the IT Help desk. If additional help is needed at the TSC, the EOF Computer Specialist will be available to support resolution of the issue. Having a computer specialist in the EOF will provide adequate support to the ensure that the computer/telephone assets functional to support Emergency Planning Functions. While this position is a 90-minute responder, it is not required to activate the EOF.

The Logistics Coordinator position in the TSC is being eliminated. As shown in Attachment 4, the Logistics Coordinator does not perform any essential tasks required for support of Emergency Planning Functions. All logistics functions will be transferred to the EOF logistics positions that will be removed from the SEP and will be managed and controlled by the EPIPs. The Logistics Coordinator position in the TSC can be eliminated without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor.

The EOF Logistics Manager is being re-categorized from Minimum Staff to Full

Augmentation Staff. Under the TMI Emergency Plan, the EOF Logistics Manager responsibilities do not directly perform actions necessary to accomplish EP functions under NUREG-0654, but rather support other personnel at the TSC and EOF. The position, as currently defined in the Emergency Plan, would not be considered as part of the minimum ERO needed to implement the emergency plan (i.e., if any position or function is not staffed then the emergency plan may not be effectively implemented). The EOF Logistics Manager performs support activities such as monitoring, advising, validations, coordination, and assistance activities. As shown in Attachment 4, there were no essential task required for support of Emergency Planning Functions. The Logistics Manager position in the EOF can be removed from the SEP and managed and controlled by EPIPs without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor.

The tasks of Administrative Coordinator and Events Recorder were reviewed in Attachment 4, and there were no essential task required for support of Emergency Planning Functions. Therefore, the Administrative Coordinator and Events Recorder in the EOF can be removed from the SEP and managed and controlled by EPIPs without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor.

The full augmented positions will still be assigned to ERO teams, be expected to maintain Fitness-for-Duty during assigned duty weeks, and are required to respond to the EOF at an Alert or higher classification.

Implementation of these changes do not impact the overall effectiveness to perform the necessary Emergency Planning Functions and will not cause undue impact to the performance of the TMI Emergency Plan.

5.2.11 Major Functional Area: Public Information

a. Major Task: Media Interface

ON-SHIFT

There are no requirements for staffing this position for on-shift staffing.

AUGMENTED ERO

Current Requirements

The Corporate Spokesperson is a Minimum Staff responder that reports to the JIC. This position is designated as minimum staffing (on-call), but is not subject to the 60-minute response time requirement.

In addition, the following full augmentation positions staff the JIC:

- Rad Protection Spokesperson
- Technical Spokesperson

Proposed Changes

The response time for the Corporate Spokesperson will be required at 90-minutes from an Alert or higher classification.

The two (2) full augmentation position will be removed from the SEP and will be managed and controlled by EIPs.

Analysis

As described in Section G of the TMI Emergency Plan, the JIC, under the direction of the Corporate Spokesperson, functions as the single point contact to interface with Federal, State and local authorities who are responsible for disseminating information to the public.

The Corporate Spokesperson remains a Minimum Staff position and the JIC, under the direction of the Corporate Spokesperson, remains as is the single point contact to interface with Federal, State and local authorities. While the current plan designates this position as minimum staff it does not have a defined response time. The proposed change will require that this position respond within 90-minutes of an Alert or higher emergency classification. The activation of the JIC Organization at the Alert classification allows for the organization to be staffed at an earlier classification level than recommended by industry guidance. The Exelon Communications Department will provide for the media interface tasks upon initial declaration. The 90-minute response time provides for a larger population of candidates to fill the JIC minimum staff positions, while the Exelon Communications Department will provide for the JIC functions until the JIC is activated and turnover of responsibility occurs.

With the permanent cessation of operations and the permanent removal of the fuel from the reactor vessel at TMI, most of the accident scenarios postulated for an operating power reactor are no longer possible. As such, the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to an operating plant. The need for a dedicated Technical Spokesperson and Radiation Protection Spokesperson would not be required to explain complicated plant details.

The tasks of Rad Protection Spokesperson and Technical Spokesperson were reviewed in Attachment 4, and the essential tasks were assigned to the Corporate Spokesperson. These positions in the JIC can be removed from the SEP and managed and controlled by EIPs without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor. The full augmentation positions will still be assigned to ERO teams, be expected to maintain Fitness-for-Duty during assigned duty weeks, and are required to respond to the JIC at an Alert or higher classification.

Implementation of these changes do not impact the overall effectiveness to perform the necessary Emergency Planning Functions and will not cause undue impact to the performance of the TMI Emergency Plan.

b. Major Task: Information Development

ON-SHIFT

There are no requirements for staffing this position for on-shift staffing.

AUGMENTED ERO

Current Requirements

The Public Information Director is a Minimum Staff responder that reports to the JIC. This position is designated as minimum staffing (on-call), but is not subject to the 60-minute response time requirement.

The News Writer in the JIC is a full augmentation position.

Proposed Changes

The response time for the Public Information Director will be required at 90-minutes from an Alert or higher classification.

The JIC News Writer Full Augmentation position will be removed from the SEP and will be managed and controlled by EPIPs.

Analysis

As described in Section G of the TMI Emergency Plan, the Emergency Public Information Organization and JIC function in conjunction with the EOF, is to prepare and releasing utility information about the emergency event.

The Public Information Director remains a Minimum Staff position and with coordination with the Corporate Emergency Director in the EOF will prepare and release utility information regarding the emergency event. While the current plan designates this position as minimum staff it does not have a defined response time. The proposed change will require that this position respond within 90-minutes of an Alert or higher emergency classification. The activation of the JIC at the alert classification allows for the organization to be staffed at an earlier classification level than recommended by industry guidance. The Exelon Communications Department will provide for the media interface tasks upon initial declaration. The 90-minute response time provides for a larger population of candidates to fill the JIC minimum staff positions, while the Exelon Communications Department will provide for the JIC functions until the JIC is activated and turnover of responsibility occurs.

With the permanent cessation of operations and the permanent removal of the fuel from the reactor vessel at TMI, most of the accident scenarios postulated for an operating power reactor are no longer possible. As such, the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to an operating plant.

The assessment and disposition of specific responsibilities and tasks for the JIC News Writer is addressed in Attachment 4 of this submittal. It is concluded that all the JIC News

Writer's essential responsibilities and tasks can be re-assigned to the JIC Public Information Director. As such, the JIC News Writer position can be removed from the SEP and managed and controlled by EPIPs without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor.

The full augmentation positions will still be assigned to ERO teams, be expected to maintain Fitness-for-Duty during assigned duty weeks, and are required to respond to the EOF at an Alert or higher classification.

Implementation of these changes do not impact the overall effectiveness to perform the necessary Emergency Planning Functions and will not cause undue impact to the performance of the TMI Emergency Plan.

c. Major Task: Media Monitoring and Rumor Control

ON-SHIFT

There are no requirements for staffing this position for on-shift staffing.

AUGMENTED ERO

Current Requirements

The Media Monitoring Staff and Rumor Control staff is listed in the TMI SEP as full augmentation positions that are filled on an as needed basis.

Proposed Changes

The Media Monitoring Staff and Rumor Control staff positions will be removed from the SEP and will be managed and controlled by EPIPs.

Analysis

As described in Section G of the TMI Emergency Plan, the Media Monitoring and Rumor Control Staff is intended to monitor media to identify rumors or misinformation, and respond.

These positions are filled on an as needed position. The Exelon Communications Department will provide for the media interface tasks upon initial declaration and will provide for the JIC functions until the JIC is activated and turnover of responsibility occurs.

With the permanent cessation of operations and the permanent removal of the fuel from the reactor vessel at TMI, most of the accident scenarios postulated for an operating power reactor are no longer possible. As such, the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to an operating plant. The assessment and disposition of specific responsibilities and tasks for the Media Monitoring and Rumor Control Staff is addressed in Attachment 4 of this submittal. It is concluded that all the Media Monitoring and Rumor Control tasks and functions are support activities and not required to activate and perform the media response function of the JIC. As such, the Media Monitoring and Rumor Control Staff can be removed from

the SEP and managed and controlled by EIPs without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor.

The full augmentation positions will still be assigned to ERO teams, be expected to maintain Fitness-for-Duty during assigned duty weeks, and are required to respond to the EOF at an Alert or higher classification.

Implementation of these changes do not impact the overall effectiveness to perform the necessary Emergency Planning Functions and will not cause undue impact to the performance of the TMI Emergency Plan.

d. Major Task: Facility Operation and Control

ON-SHIFT

There are no requirements for staffing this position for on-shift staffing.

AUGMENTED ERO

Current Requirements

The JIC Director is a Minimum Staff responder that reports to the JIC. This position is designated as minimum staffing (on-call), but is not subject to the 60-minute response time requirement.

In addition, the following full augmentation positions staff the JIC:

- JIC Coordinator
- Administrative Coordinator
- Events Recorder
- Clerical Support
- Access Control

Proposed Changes

The response time for the JIC Director will be required at 90-minutes minutes from an Alert or higher classification.

All the full augmentation positions to support Facility Operation and Control will be removed from the TMI SEP and will be managed and controlled by EIPs.

Analysis

As described in Section G of the TMI Emergency Plan, the JIC provides work space and phones for public information personnel from the state, counties, NRC, FEMA, and industry-related organizations, and providing telephones for use by the new media

personnel.

The JIC Director remains a Minimum Staff position and provides oversight for the operations of the JIC. While the current plan designates this position as minimum staff it does not have a defined response time. The proposed change will require that this position respond within 90-minutes of an Alert or higher emergency classification. The activation of the JIC at the alert classification allows for the organization to be staffed at an earlier classification level than recommended by industry guidance. The Exelon Communications Department will provide for the media interface tasks upon initial declaration. The 90-minute response time provides for a larger population of candidates to fill the JIC minimum staff positions, while the Exelon Communications Department will provide for the JIC functions until the JIC is activated and turnover of responsibility occurs.

With the permanent cessation of operations and the permanent removal of the fuel from the reactor vessel at TMI, most of the accident scenarios postulated for an operating power reactor are no longer possible. As such, the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to an operating plant.

The assessment and disposition of specific responsibilities and tasks for the JIC Coordinator, Administrative Coordinator, Access Controller, Events Recorder, and Clerical Staff is addressed in Attachment 4 of this submittal. It is concluded that all Facility Operation and Control tasks and functions conducted by this position are support activities and not required to activate and perform the facility operation and control function of the JIC. As such, the JIC Coordinator, Administrative Coordinator, Access Controller, Events Recorder, and Clerical Staff can be removed from the SEP and managed and controlled by EIPs without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor.

The full augmentation positions will still be assigned to ERO teams, be expected to maintain Fitness-for-Duty during assigned duty weeks, and are required to respond to the EOF at an Alert or higher classification.

Implementation of these changes do not impact the overall effectiveness to perform the necessary Emergency Planning Functions and will not cause undue impact to the performance of the TMI Emergency Plan.

5.3 TMI Emergency Plan ERO Changes – ERF Analysis

5.3.1 On-Shift Staffing- Control Room

The guidance for licensee minimum staffing for nuclear power plants regulated by the NRC is documented in NUREG-0654, Table B-1 (Reference 8.4).

As described in Section H of the TMI Emergency Plan, the Control Room is the centralized onsite location from which TMI's plant systems necessary to support the Spent Fuel Pool operation. The Control Room is equipped with the instrumentation to supply detailed information on the plant systems. The Control Room is continuously staffed with qualified operators. The Control Room is the first onsite facility to become involved with the response to emergency events. Control Room personnel must evaluate and effect control over the emergency and initiate activities necessary for coping with the emergency and

initiate activities necessary for coping with the emergency until such time that support centers can be activities.

The proposed on-shift staffing changes were evaluated using the Functional Area Analysis of the NUREG-0654 Table B-1 Functions. With the permanent cessation of operations and the permanent removal of the fuel from the reactor vessel at TMI, most of the accident scenarios postulated for an operating power reactor are no longer possible. The irradiated fuel is stored in the SFP or at the ISFSI, when constructed, and will remain on-site until it can be moved off-site for long-term storage or disposal. The reactor, RCS, and reactor support systems are no longer in operation and have no function related to the storage of the irradiated fuel. Therefore, postulated accidents involving a failure or malfunction of the reactor, RCS, or reactor support systems are no longer applicable. During facility decommissioning, the principal public safety concerns involve the radiological risks associated with the storage of spent fuel on-site. The proposed level of on-site operations staff will continue to provide for communication and coordination capabilities with off-site organizations for the level of support required for the remaining DBAs and the prompt implementation of mitigative actions in response to an SFP accident.

The Functional Analysis (Section 5.2) concluded that the proposed on-shift staffing changes do not impact the capabilities of the on-shift staff to respond to an emergency and continues to comply with the Emergency Plan, site commitments and regulations.

On-Shift Staffing Assessment

To support ERO staffing changes following permanent cessation of operations and permanent removal of fuel from the reactor vessel, the Post-Shutdown On-shift Staffing Assessment was evaluated in conjunction with the postulated accidents previously evaluated using NEI 10-05 methodology. The Post-Shutdown On-Shift Staffing Assessment results validated the following changes to the TMI on-shift staff.

Current On-Shift Staff

- (1) Shift Manager
- (1) Control Room Supervisor
- (2) Control Room Operator
- (1) Shift Technical Advisor / Incident Assessor
- (2) Auxiliary Operator
- (1) EP Communicator
- (2) RP Technicians
- (1) Chemistry Technician
- (6) Fire Brigade (per the TMI Fire Plan)

Total = 17

Post Shutdown On-Shift Staff

- (1) Shift Manager/CFH⁽¹⁾
- (1) Shift Supervisor/CFH⁽¹⁾
- (1) NCO⁽¹⁾
- (1) EP Communicator
- (2) RP Technician
- (5) or (3) Fire Brigade (per the TMI Fire Plan)⁽²⁾

Total = 11 (9)⁽²⁾⁽³⁾

- (1) Titles are consistent with changes to Technical Specifications. Non-Certified Operators (NCO) will perform duties typically associated with those performed by Auxiliary Operators (AO) and Reactor Operators (RO), such as manipulation and monitoring of plant equipment. NCOs are also qualified to perform EP Communications (ENS/State Local Notifications). The NCO position may be filled by a Certified Fuel Handler (CFH). The SM will also be qualified as a CFH. However, the SM requires additional qualification to perform Emergency Director responsibilities beyond the CFH training.*
- (2) This Post-Shutdown On-Shift Staffing Assessment initially assumed a Fire Brigade consisting of five (5) persons. An additional evaluation was conducted to confirm that when the incipient fire brigade consisting of three (3) fire brigade members is implemented it would continue to maintain capability to perform 50.54(hh) and FLEX activities necessary to support mitigation of SFP events.*
- (3) TMI will either qualify an existing on-shift person to perform liquid sampling and analysis at various locations throughout the plant or maintain a Chemistry Technician on shift.*

The OSA validated that in a permanently defueled condition one (1) on-shift SM (CFH), one (1) Shift Supervisor (CFH), two (2) RP Technician, one (1) NCO, one (1) EP Communicator, and fire brigade members (Post shutdown 5 member or incipient 3-member fire brigades) can perform all required Emergency Plan actions in a timely manner and there are no collateral duties that would prevent the timely performance of Emergency Plan functions.

TMI will ensure a sufficient number of personnel are initially trained to support the on-shift positions prior to implementation of the post shutdown Emergency Plan

Consistent with the methodology of NEI 10-05, the present Emergency Plan OSA evaluated postulated accident scenarios. Chapter 14 of the TMI Updated Final Safety Analysis Report (UFSAR) describes the Abnormal Operational Transients and Design Basis Accident (DBA) scenarios that are applicable during plant operations. Upon docketing of the certifications required by 10 CFR 50.82(a)(1), the 10 CFR 50 license for TMI will no longer authorize operation of the reactor or emplacement or retention of fuel into the reactor vessel, as specified in 10 CFR 50.82(a)(2). Therefore, most of the accident scenarios postulated in the UFSAR will no longer be applicable once TMI is in the permanently defueled condition.

The postulated DBAs that will remain applicable to TMI in its permanently shutdown and defueled condition are the FHA in the Fuel Handling Building, where the SFP is located, Cask Drop Accident in SFP, and the Waste Gas Tank Rupture. UFSAR Chapter 14 will be revised to eliminate the DBAs that will not be applicable in the permanently defueled condition.

The Appendix R fire is no longer applicable in the permanently shutdown and permanently defueled condition, since 10 CFR 50 Appendix R is applicable to licensed nuclear power generating station.

However, the TMI Post-Shutdown OSA did evaluate the most limiting fire consistent with the intent of NEI 10-05. This accident consisted of a fire requiring evacuation of the Main Control Room.

The Station Blackout event required under 10 CFR 50.63 is no longer applicable, once the certifications required by 10 CFR 50.82(a)(1) and (2) are docketed and TMI will no longer be licensed to generate nuclear power. However, this event is included since the loss of offsite power remains a declarable Emergency Plan Event.

The spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor, and the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to an operating plant. The primary events of concern in the immediate post-shutdown and defueled condition will be a fuel handling accident and a loss of SFP cooling and/or water inventory.

During fuel handling activities, there will ordinarily be extra personnel on site to move fuel, in addition to minimum on-shift staff; if a fuel handling accident were to occur they would be able to respond to the event (Reference 8.11). Events involving a loss of SFP cooling and/or water inventory can be addressed by implementation of normal and emergency SFP inventory makeup strategies and mitigating strategies required under license condition 2.c.(17), "Mitigation Strategy License Condition" and 10 CFR 50.54(hh)(2).

There were no actions or tasks identified for the Chemistry Technician which were time critical in the OSA. The Chemistry function will be maintained by either placing a qualified Chemistry Technician on shift or qualifying other Plant Personnel.

The following scenarios were evaluated for TMI in the Post-Shutdown OSA:

- Design Basis Threat - The event evaluated for this analysis assumes a land based threat that is neutralized immediately when inside the protected area fence, no significant damage to equipment or systems that require corrective actions before the ERO is staffed, no radiological release, and no fire that requires firefighting response before the ERO is staffed.
- Fuel Handling Accident (FHA) - The postulated design basis accident that will remain applicable to TMI in its permanently shutdown and defueled condition is the FHA in the fuel handling building where the SFP is located.
- Waste Gas Tank Rupture - The postulated design basis accident that will remain applicable to TMI in its permanently shutdown and defueled condition is the Waste Gas Tank Rupture in the Auxiliary Building.
- Aircraft Potential Threat (50.54(hh)) - Notification is received from the NRC that a potential aircraft threat exists.
- Worst case fire - The chosen fire was the fire requiring evacuation of the Control Room.

- General Emergency (GE) with radioactive release and Protective Action Recommendation (PAR) (assumed for analysis purposes) - This event is based on the same initial conditions as the FHA, but assumes a dose that exceeds the EPA PAGs beyond the site boundary, and thus necessitates promulgation of a PAR.
- Station Blackout - A loss of all offsite AC power occurs and the failure of the emergency diesel generators to start. The SM determines power cannot be restored and declares an Alert Emergency due to the loss of off-site power.

The OSA validated that in a permanently defueled condition one (1) on-shift SM (CFH), one (1) Shift Supervisor (CFH), two (2) RP Technician, one (1) NCO, one (1) EP Communicator and fire brigade members (Post shutdown 5 member or incipient 3-member fire brigades) can perform all required Emergency Plan actions in a timely manner and there are no collateral duties that would prevent the timely performance of Emergency Plan functions.

5.3.2 Augmented ERO Staff

The TMI Emergency Plan identifies Minimum Staff as those ERO members needed to support Facility Activation. A facility is activated only after it reaches minimum staff and is available to perform its designed functions.

In the permanently defueled condition, TMI will maintain multiple ERO teams, with one complete team being on duty at any given time. When the Shift Manager/CFH directs the activation of the ERO call out system, all ERO members on all teams are notified and are directed to respond to ensure adequate coverage of all ERO positions at all ERFs.

TMI requires members to act promptly in reporting to their assigned ERF, even when not on duty. During duty periods, the procedure further requires that team members respond within the committed response time and that they remain fit for duty throughout their duty assignment. Individuals are trained to respond directly to their ERF even if they are not on duty. Excess personnel that respond may be assigned support responsibilities or be designated as a relief shift. This conservative policy ensures timely activation since some off-duty personnel may respond sooner than the on-duty personnel. The proposed revisions to the Emergency Plan will not change these requirements. It will continue to be a management expectation that all qualified individuals for each position respond and report to their respective ERF as quickly as possible. EP procedures identify ERO positions assigned to each facility and the minimum staffing required before each facility can be declared operational and is available to perform its designed functions.

The EP procedures will continue to assign responsibilities to ERO responders, with the purposes of removing the responsibilities of coordinating with offsite responders and delivering information to the public from the Control Room, allowing operations personnel to focus on returning the plant to a safe condition.

The risk in the permanently defueled condition is significantly reduced. Many of the potential initiating conditions that would lead to an emergency declaration will no longer be credible. The set of plant equipment required in the permanently defueled condition is also greatly reduced, which reduces the assessments and mitigation activities the ERO staff (TSC/OSC/EOF) must perform. Restoration of equipment supporting spent fuel

cooling and inventory will be the primary focus of emergency mitigation actions for the TSC/OSC staff in a permanently shutdown and defueled condition. Although ERO activation/response time requirements will be unchanged, the elimination of credible accidents involving an operating reactor provides additional time to plan and execute assessment and mitigation actions.

5.3.3 Technical Support Center

As described in Section H of the TMI Emergency Plan, the TSC is the onsite location utilized to support the Control Room for assessment of plant status and potential offsite impact, and for implementation of emergency actions. The TSC provides technical data and information to the EOF.

The proposed changes to the TMI Emergency Plan do not involve any physical modifications to, or layout/configuration changes, or relocation of the TSC. The TSC is located on the 1st floor of the Operations Support Facility (OSF), which is outside but adjacent to the Protected Area. The TSC meets the requirements of NUREG-0696 for size and habitability, including a filtered HVAC system that can be isolated in the event of a radiological accident.

The proposed changes to the TSC Minimum Staff do not impact the capability to assess and monitor actual or potential offsite consequences of a radiological emergency. Appropriate assessment and mitigation are well within the capabilities of the proposed TSC staff provided in Table 5.1.

**Table 5.1 Emergency Response Organization
TSC Minimum Staffing Positions**

TMI Operational ERO Minimum Staff Positions	TMI Post-Shutdown ERO Minimum Staff Positions
Station Emergency Director	Station Emergency Director
Radiation Protection Manager	Radiation Protection Manager
Maintenance Manager	Maintenance Manager
Operations Manager	Operations Manager
Technical Manager	Technical Manager
ENS Communicator	ENS Communicator
TSC Director	Position Eliminated
Core Thermal Engineer	Position Eliminated
Mechanical Engineer	Position Eliminated
Electrical Engineer	Position Eliminated
N/A	Security Coordinator (added as Minimum Staff)
Offsite Field Team #1 Personnel	Offsite Field Team #1 Personnel
Offsite Field Team #1 Driver	Offsite Field Team #1 Driver
Offsite Field Team #2 Personnel	Offsite Field Team #2 Personnel (@90 min.)
Offsite Field Team #2 Driver	Offsite Field Team #2 Driver (@90 min.)
Onsite Field Team #1 Personnel (onsite surveys)	Onsite Field Team #1 Personnel
Onsite Field Team #1 Driver (onsite surveys)	N/A

The functional analysis in Section 5.2 provided justification for the elimination of key TSC Minimum Staffing Positions. ERO tasks have been reviewed and tasks for eliminated positions will be transferred appropriately. The analysis of the ERO staff tasks assigned by the Emergency Plan is found in Attachment 4 of this submittal. Attachment 4 evaluates and dispositions each EP task as being reassigned or eliminated and provides justification, as appropriate. It is ascertained from the Attachment 4 assessment, that given the elimination of credible accidents involving an operating reactor, the proposed ERO Minimum Staff can continue to satisfactorily perform their existing Emergency Plan responsibilities as well as any transferred responsibilities.

The FMTs will report to the TSC to obtain equipment (and vehicles) and will receive initial briefing from the TSC RPM. Once dispatched the offsite FMTs will be controlled by the EOF Protective Measures Group. The second offsite FMT is a backup team and is not required for TSC or EOF activation. The on-site FMT will remain under the control of the TSC RPM and will not require a vehicle.

Currently, the TSC has the following ERO Non-Minimum Augmented Staff:

- Security Coordinator
- Rad Controls Coordinator
- Rad Controls Engineer
- TSC Operations Communicator
- CR Operations Communicator
- CR Damage Control Communicator
- Logistics Coordinator
- TSC Technical Communicator
- TSC Damage Control Communicator
- HPN Communicator
- State/local Communicator

As discussed in the Functional Analysis of Section 5.2, TMI proposes to remove all the TSC Non-Minimum Augmented Staff except for the Security Coordinator following permanent shutdown. The Security Coordinator, is being designated as a Minimum Staff position to support the Station Emergency Director in implementing accountability and evacuation actions, and responding to a security or hostile-action based event.

The present ERO staffing required by the Emergency Plan is intended to address the risks to public health and safety inherent in an operating power reactor. The risk in the permanently shutdown and defueled condition is significantly reduced. Remaining ERO positions will inherit tasks from eliminated positions (see Attachment 4 of this submittal), but this does not impact the ability of the TSC to perform its designated mission for the scope of remaining applicable accidents. As such, elimination of the non-minimum staff positions of Rad Controls Coordinator, Rad Controls Engineer, TSC Operations Communicator, CR Operations Communicator, CR Damage Control Communicator, Logistics Coordinator, TSC Technical Communicator, TSC Damage Control Communicator, State/local Communicator, and HPN Communicator positions do not impact the ability of the ERO to perform the required functions based on the permanent shutdown and defueled condition of the facility.

The proposed staff of seven (7) individuals in the TSC will provide adequate resources to perform the Emergency Classification and site protective measures including managing

emergency exposure controls of workers on site, and performance of site accountability and evacuation. In addition, the TSC is adequately staffed to prioritize and manage station repair and corrective actions activities.

5.3.4 Operations Support Center (OSC)

As described in Section H of the TMI Emergency Plan, the OSC is the onsite location to where station support personnel report during an emergency and from which they will be dispatched for assignments or tasks in support of emergency operations. The proposed changes to the TMI Emergency Plan do not involve any physical modifications to, or layout/configuration changes to the OSC. The OSC is located on the 305' Elevation of the Service Building.

In the permanently shutdown and defueled condition, the primary functions of the OSC will remain dispatching of, and accounting for, Repair and Corrective Action Teams. The OSC Director is responsible for ensuring adequate staffing of the OSC supporting the emergency; working with the TSC through the Maintenance Manager and Operations Manager to set priorities for the OSC; and directing the activities of the OSC to support the emergency response.

The proposed staffing to the OSC Minimum Staff do not impact the ability to respond to issues related maintaining spent fuel in the spent fuel pool. Appropriate repair and corrective action capability is provided by the OSC Minimum Staff provided in Table 5.2.

**Table 5.2 Emergency Response Organization
OSC Minimum Staffing Positions**

Current Minimum Staff Positions	Proposed Minimum Staff Positions (response times are 60 minutes unless otherwise noted)
Operations Support Center (OSC)	
OSC Director	OSC Director
RP Personnel #1	RP Personnel #1
RP Personnel #2	Position Eliminated
RP Personnel #3	Position Eliminated
RP Personnel #4	Position Eliminated
Mechanical Maintenance	Mechanical Maintenance
Electrical Maintenance / I&C #1	Electrical Maintenance
Electrical Maintenance / I&C #2	Position Eliminated

The functional analysis in Section 5.2 provided justification for the elimination of key OSC Minimum Staffing Positions. ERO tasks have been reviewed and tasks for eliminated positions will be transferred appropriately. The analysis of the ERO staff tasks assigned by the Emergency Plan is found in Attachment 4 of this submittal. The Attachment evaluates and dispositions each EP task as being reassigned or eliminated and provides justification, as appropriate. It is ascertained from the Attachment 4 assessment, that given the elimination of credible accidents involving an operating reactor, the proposed ERO Minimum Staff can continue to satisfactorily perform their existing Emergency Plan responsibilities as well as any transferred responsibilities.

Currently, the OSC has the following ERO Non-Minimum Augmented Staff:

- OSC Damage Control Communicator
- Assistant OSC Director
- Operations Lead & Support Personnel

As discussed in the Functional Analysis of Section 5.2, TMI proposes to remove all the OSC Non-Minimum Augmented Staff, following permanent shutdown. TMI proposes to only maintain the OSC Director position and a pool of one (1) Mechanical Maintenance Technician, one (1) Electrical Maintenance Technician, and three (3) RP Personnel. The OSC Director will report to the Maintenance Manager in the TSC. If at any time the OSC Director determines that additional support is necessary to accomplish the mission of the OSC, the OSC Director will contact the EOF to arrange for support by calling out additional personnel.

TMI ERO staffing, as required by the TMI Emergency Plan, is intended to address the risks to public health and safety inherent in an operating reactor. The risk in the permanently shutdown and defueled condition is significantly reduced. Many of the potential initiating conditions that would lead to an emergency declaration will no longer be credible. The set of plant equipment required in the permanently shutdown and defueled condition is also greatly reduced, which reduces the assessments and mitigation activities that the OSC must perform. The spectrum of credible accidents and operational events, and the quantity and complexity of activities required for safe storage of spent fuel is reduced, as compared to an operating power reactor. Restoration of equipment supporting spent fuel cooling and inventory will be the primary focus of emergency mitigation actions for the TSC/OSC in a permanently shutdown and defueled condition. The proposed staffing can respond to the expected repair activities with adequate Radiation Protection oversight.

The primary events of concern in the immediate post-shutdown and defueled condition will be a fuel handling accident and a loss of SFP cooling and/or water inventory. During fuel handling activities, station procedures require additional personnel (i.e., RP Techs) on-site that will, if a fuel handling accident were to occur, be able to respond to the event. Events involving a loss of SFP cooling and/or water inventory can be addressed by implementation of the SFP inventory makeup strategies, as required under License Condition 2.c.(17), "Mitigation Strategy License Condition" and 10 CFR 50.54(hh)(2). OSC staff is not relied upon to implement SFP inventory makeup.

The proposed change to the level of ERO staffing continues to meet the planning standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR Part 50, commensurate with the reduced spectrum of credible accidents in the permanently defueled condition, and ensures that TMI retains the ability to promptly implement SFP mitigation actions.

5.3.5 Emergency Operations Center (EOF)

As described in Section H of the TMI Emergency Plan, the EOF is the location where the Corporate Emergency Director will direct a staff in evaluating and coordinating the overall company activities involved with an emergency.

The EOF is located west of Philadelphia, at 175 North Caln Road, Coatesville PA. This

facility supports Limerick, Peach Bottom and TMI Stations. The EOF facility is shared between the three nuclear plants. The EOF staffing for TMI will align with the Exelon Fleet EOF staffing levels. The proposed changes to the TMI Emergency Plan do not involve any physical modifications to, or layout/configuration changes to the EOF.

The proposed changes to the EOF Minimum Staff do not impact the capability to assess and monitor actual or potential offsite consequences of a radiological emergency. Appropriate assessment and mitigation are well within the capabilities of the proposed EOF minimum staff provided in Table 5.3.

**Table 5.3 Emergency Response Organization
EOF Minimum Staffing Positions**

TMI Operational ERO Minimum Staff Positions	TMI Post-Shutdown ERO Minimum Staff Positions
Corporate Emergency Director	Corporate Emergency Director
State / Local Communicator	State / Local Communicator
Radiation Protection Manager	Radiation Protection Manager
Dose Assessment Coordinator	Dose Assessment Coordinator
EOF Director	Relocated to EPIP as Full Augmentation
Environmental Coordinator	Relocated to EPIP as Full Augmentation
HPN Communicator	Relocated to EPIP as Full Augmentation
Logistics Manager	Relocated to EPIP as Full Augmentation
N/A	Computer Specialist (@ 90-minutes) (added as Minimum Staff)

The functional analysis of Section 5.2 justifies that the proposed EOF minimum staff can perform required Emergency Plan Functions. The EOF Computer Specialist is added to the minimum staff as a 90-minute responder to provide support of phone and computer assets and is not required for activation of the EOF facility.

The analysis of the ERO staff tasks assigned by the Emergency Plan is found in Attachment 4 of this submittal. Attachment 4 evaluates and dispositions each EP task as being reassigned or eliminated and provides justification, as appropriate. It is ascertained from the Attachment 4 assessment, that given the elimination of credible accidents involving an operating reactor, the proposed ERO Minimum Staff can continue to satisfactorily perform their existing Emergency Plan responsibilities as well as any transferred responsibilities. In addition, the functional analysis in Section 5.2 provides justification for making the EOF Director, Environmental Coordinator, HPN Communicator, and Logistic Manager full augmentation positions that provide support to the EOF Minimum Staffing Positions and are not required to activate the EOF and take Command and Control of the Event.

Currently, the EOF has the following ERO Non-Minimum Augmented Staff:

- Technical Support Manager
- Regulatory Liaison
- Dose Assessor
- Operations Advisor
- Computer Specialist

- Administrative Coordinator
- EOC Coordinator
- State EOC Liaison
- Operations Assistant
- Field Team Communicator
- ENS Communicator
- Events Recorder

As stated previously the Computer Specialist in the EOF will be made a Minimum Staff position with a 90-minute response time.

As stated above the proposed change made the following minimum Staff positions ERO Non-Minimum Augmented Staff:

- Environmental Coordinator
- Regulatory Liaison
- Dose Assessor

The full augmentation positions are proposed to be removed from the SEP and will be managed and controlled by EPIPs. The full augmented positions will still be assigned to ERO teams, be expected to maintain Fitness-for-Duty during assigned duty weeks, and are required to respond to the EOF at an Alert or higher classification. As shown in Attachment 4, these positions provide support to the Minimum Staff positions that continue to provide the performance of the Emergency Planning Functions. As justified in the Functional Analysis in Section 5.2, the proposed EOF staffing requirements relocation to the EPIPs do not impact the capabilities of the EOF staff. The positions can be removed from the SEP and managed and controlled via EPIPs without placing an undue burden on the remaining ERO positions in the EOF and without increasing the risk to public health and safety.

5.3.6 Joint Information Center (JIC)

As described in Section G of the TMI Emergency Plan, the JIC is the facility in which media personnel gather to receive information related to the emergency event. The JIC is the location where approved news releases will be provided to the media for dissemination to the public.

The JIC is located west of Philadelphia, at 175 North Caln Road, Coatesville PA. This facility supports Limerick, Peach Bottom and TMI Stations. The JIC facility is shared between the three nuclear plants. The JIC staffing for TMI will align with the Exelon Fleet JIC staffing levels. The proposed changes to the TMI Emergency Plan do not involve any physical modifications to, or layout/configuration changes to the JIC.

The JIC Minimum Staffing as shown in Table 5.4 and has not been changed.

**Table 5.4 Emergency Response Organization
JIC Minimum Staffing Positions**

Current Minimum Staff Positions	Proposed Minimum Staff Positions (response times are 90 minutes)
Joint Information Center	

JIC Director	JIC Director
Corporate Spokesperson	Corporate Spokesperson
Public Information Director	Public Information Director

The functional analysis of Section 5.2 justifies that the current JIC minimum staff can perform required Emergency Plan Functions. The proposed change will require that the JIC Minimum Staff positions respond within 90-minutes of an Alert or higher emergency classification. The activation of the JIC at the alert classification allows for the organization to be staffed at an earlier classification level than recommended by industry guidance. The Exelon Communications Department will provide for the media interface tasks upon initial declaration until the JIC can be activated.

Currently, the JIC has the following ERO Non-Minimum Augmented Staff:

- JIC Coordinator
- New Writer
- Access Controller JIC
- Administrative Coordinator
- Events Recorder
- Media Monitoring Staff
- Rumor Control Staff
- Radiation Protection Spokesperson
- Technical Spokesperson
- Clerical Support

The full augmentation positions are proposed to be removed from the SEP and will be managed and controlled by EIPs. The full augmented positions will still be assigned to ERO teams, be expected to maintain Fitness-for-Duty during assigned duty weeks, and are required to respond to the EOF at an Alert or higher classification. As shown in Attachment 4, these positions provide support to the Minimum Staff positions that continue to provide the performance of the Emergency Planning Functions. As justified in the Functional Analysis in Section 5.2, the proposed JIC staffing requirements relocation to the EIPs do impact the capabilities of the JIC staff. The positions can be removed from the SEP and managed and controlled via EIPs without placing an undue burden on the remaining ERO positions in the JIC and without increasing the risk to public health and safety. These full augmentation positions will still respond to an emergency and staff the facility

5.4 Assessment of Staff Changes on Off-site Emergency Response Organizational Interfaces

The proposed changes to the TMI Emergency Plan were evaluated for impacts on the ability of State and local response organizations to effectively implement their FEMA-approved Radiological Emergency Plans.

The following list of additional actions involve support or direct interface with the State of Pennsylvania, are not being revised and will continue to be performed by ERO positions as currently assigned and shown in Attachment 4.

1. Corporate Emergency Director – Following assumption of Command and Control, ensure that Federal, state and local authorities and industry support agencies remain cognizant of the status of the emergency situation. If requested, dispatch informed

individuals to offsite governmental Emergency Operation Centers (EOCs).

2. EOF Radiation Protection Manager – Ensure State authorities are provided information pertaining to Exelon Field Monitoring Team activities and sample results.
3. JIC Corporate Spokesperson – Coordinate with Federal, state and local agencies, as well as with other organizations involved in the emergency response, to maintain factual consistency of information to be conveyed to the news media/public.
4. JIC Director – Coordinate with Federal, state and local agencies, as well as with other organizations involved in the emergency response, to maintain factual consistency of information to be conveyed to the news media/public.
5. JIC Director – Coordinate with the Corporate Spokesperson, Public Information Director, Federal, State and Local agencies, regarding the content, format and timing of press releases and news briefings.
6. TSC Tech Manager – Act as the TSC liaison with state and appropriate NRC Site Team representatives.

Although the State EOC liaisons/communicators have been removed from the SEP and will be managed and controlled by EPIPs, they are still available to be dispatched per Corporate Emergency Director discretion.

Exelon also concluded there were no interface or coordination impediments identified because of the change to the TMI Emergency Plan.

A preliminary review of the proposed changes prior to the formal submission of the LAR has been performed by the Commonwealth of Pennsylvania.

5.5 Validation and Training

To validate the results of the analysis, a drill will be developed and conducted prior to implementation of the changes described within this LAR. The drill will be conducted to confirm the ability of the post-shutdown ERO to perform the necessary functions of each ERF. The drill will evaluate and validate the ability to accomplish the stated mission of each ERF, and ensure that the planning standard functions are preserved with no degradation in time sensitive activities or in the ability to communicate with offsite response organizations. The drill will also validate that the post-shutdown ERO continues to address the risks to public health and safety and comply with the TMI Emergency Plan, site commitments, and applicable regulations. Implementing procedures will be revised to address the permanently shutdown and defueled conditions. The revised procedures will be used to support training of the ERO staff and the conduct of drills described above.

Training and procedures will be developed and in place prior to performing the post-shutdown ERO drill. The drill scenario will include SFP events and will be designed to test the major elements of the TMI post shutdown Emergency Plan. Major elements to be tested will include communications and coordination with offsite response organizations, including the JIC. State, Local and Federal response organizations will be provided the opportunity to participate in or observe the drills. New regulatory commitment for scenario elements and communications with offsite agencies are included

in Attachment 5.

In addition, other training drills will be conducted to train post-shutdown station ERO members. These drills may not involve all Exelon ERFs or State/local participation; however, all ERO members will participate in at least one training drill. The post shutdown EP procedures which support the defueled condition will be available in draft form to support the drills. Final implementation of the procedures will occur concurrent with implementation of the post shutdown emergency plan.

5. 6 ERO Change Summary

Exelon completed an evaluation of the proposed reduction in on-shift and ERO staffing and completed a post-shutdown OSA for TMI to validate the ability of the proposed defueled on-shift to respond to an emergency. Exelon further assessed the ability of the ERO augmented staff to respond to an emergency through a Task Analysis.

The proposed ERO staffing changes do not impact the capabilities of the on-shift staffing or augmented response. The ERFs will continue to be activated at an Alert or higher classification. Functional responsibilities of the positions eliminated as a result of the changes described within are being reassigned to remaining positions or eliminated if no longer applicable to the permanently defueled condition. The proposed ERO staffing reductions continue to address the risks to public health and safety, comply with the Emergency Plan, site commitments, and regulation.

The proposed changes do not impact the capability to assess and monitor actual or potential off-site consequences of a radiological emergency and the ability to promptly implement SFP mitigation actions. Appropriate assessment and mitigation actions are within the capabilities of the reduced ERO staff.

6.0 **REGULATORY EVALUATION**

6.1 Applicable Regulatory Requirements

On-Shift and ERO Staffing

The specific standards for establishing an onsite emergency organization to respond to emergency events appears in 10 CFR 50.47(b) and 10 CFR 50, Appendix E, Section IV.A. Specifically:

- 10 CFR 50.47(b)(1) states in part that: "...each principal response organization has staff to respond and to augment its initial response on a continuous basis."
- 10 CFR 50.47(b)(2) states in part that: "...adequate staffing to provide initial facility accident response in key functional areas is maintained at all times," and that "timely augmentation of response capabilities is available"
- 10 CFR 50, Appendix E, Section IV, Part A, "Organization," it states in part that: "...The organization for coping with radiological emergencies shall be described, including definition of authorities, responsibilities, and duties of individuals assigned to the Licensee's emergency organization"

- 10 CFR 50, Appendix E, Section IV.A.13: [Emergency Plans must contain] "A description of the normal plant operating organization."
- 10 CFR 50, Appendix E, Section IV.A.2: [Emergency Plans must contain] "A description of the onsite emergency response organization (ERO) with a detailed discussion of:
 - Authorities, responsibilities, and duties of the individual(s) who will take charge during an emergency;
 - Plant staff emergency assignments;
 - Authorities, responsibilities, and duties on an onsite emergency coordinator who shall be in charge of the exchange of information with offsite authorities responsible for coordinating and implementing offsite emergency measures."
- 10 CFR 50, Appendix E, Section IV.A.9 states that licensees shall perform "...a detailed analysis demonstrating that on-shift personnel assigned emergency plan implementation functions are not assigned responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan."

Guidance

Regulatory Guide 1.101 (RG 1.101), "Emergency Planning and Preparedness for Nuclear Power Reactors" (Reference 8.8), Section C, states in part,

The criteria and recommendations in Revision 1 of NUREG-0654/FEMA-REP-1, 'Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants (November 1980),' are methods acceptable to the NRC staff for complying with the standards in 10 CFR 50.47 that must be met in onsite and offsite emergency response plans. These criteria provide a basis for NRC licensees and State and local governments to develop acceptable radiological emergency plans and preparedness.

In NUREG-0654, Section II, "Planning Standards and Evaluation Criteria," Evaluation Criteria II.B.1 and II.B.5 address the 10 CFR 50.47(b)(2) planning standard. Evaluation Criterion II.B.1 specifies the on-site emergency organization of plant staff personnel for all shifts, and its relation to the responsibilities and duties of the normal shift complement. Evaluation Criterion II.B.5 states in part that:

Each licensee shall specify the positions or title and major tasks to be performed by the persons to be assigned to the functional areas of emergency activity. For emergency situations, specific assignments shall be made for all shifts and for plant staff members, both on-site and away from the site. These assignments shall cover the emergency functions in Table B-1 entitled, "Minimum Staffing Requirements for Nuclear Power Plant Emergencies." The minimum on-shift staffing levels shall be as indicated in Table B-1. The licensee must be able to augment on-shift capabilities within a short period after declaration of an emergency. This capability shall be as indicated in Table B-1.

NSIR/DPR-ISG-01, "Interim Staff Guidance - Emergency Planning for Nuclear Power Plants" (Reference 8.6) provides information relevant to performing the on-shift staffing analysis. The ISG states that NEI 10-05, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities," is an acceptable methodology for performing the staffing analysis. The ISG also indicates that the completed staffing analyses are required to be part of the emergency plan and the results documented and submitted to the NRC in accordance with 10 CFR 50.54(q)(5).

Regulatory Guide 1.219, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors," November 2011 (Reference 8.9), describes a method that the NRC considers to be acceptable to implement the requirements in 10 CFR 50.54(q). In Section 2.a.(1), the NRC encourages licensees to arrange a conference call with the NRC staff to clarify 10 CFR 50.54(q) requirements and guidance within this regulatory guide for EP changes that increase the activation time of emergency response facilities.

Regulatory Issue Summary 2005-02, "Clarifying the Process for Making Emergency Plan Changes," Revision 1 (Reference 8.10) was issued by the NRC to clarify the meaning of "decrease in effectiveness" and the process for making changes to emergency plans, and to provide some examples of changes that are considered to be a decrease in effectiveness.

6.2 Precedent

The requested changes to the on-shift staffing and ERO staffing are similar in nature to the post-shutdown changes approved by the NRC and implemented by Vermont Yankee Nuclear Power Station (Reference 8.11) and Ft. Calhoun Station (Reference 8.12).

6.3 No Significant Hazards Consideration Determination

Pursuant to 10 CFR 50.92, Exelon Generation Company, LLC (Exelon) has reviewed the proposed changes and concludes that the changes do not involve a significant hazards consideration because the proposed changes satisfy the criteria in 10 CFR 50.92(c). These criteria require that operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

The proposed changes would revise the Three Mile Island Nuclear Generating Station (TMI) Site Emergency Plan to reduce the number of on-shift and Emergency Response Organization (ERO) positions commensurate with the hazards associated with a permanently shutdown and defueled facility.

The discussion below addresses each of these criteria and demonstrates that the proposed amendment does not constitute a significant hazard.

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed changes to the TMI Emergency Plan do not impact the function of plant Structures, Systems, or Components (SSCs). The proposed changes do not involve the modification of any plant equipment or affect plant operation. The proposed changes do not affect accident initiators or precursors, nor do the proposed changes alter design assumptions. The proposed changes do not prevent the ability of the on-shift staff and ERO to perform their intended functions to mitigate the consequences of any accident or event that will be credible in the permanently defueled condition. The proposed changes only remove positions that will no longer be needed or credited in the Emergency Plan in the permanently defueled condition.

Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed changes reduce the number of on-shift and ERO positions commensurate with the hazards associated with a permanently shutdown and defueled facility. The proposed changes do not involve installation of new equipment or modification of existing equipment, so that no new equipment failure modes are introduced. Also, the proposed changes do not result in a change to the way that the equipment or facility is operated so that no new accident initiators are created.

Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

Margin of safety is associated with confidence in the ability of the fission product barriers (i.e., fuel cladding, reactor coolant system pressure boundary, and containment structure) to limit the level of radiation dose to the public. The proposed changes do not adversely affect existing plant safety margins or the reliability of the equipment assumed to operate in the safety analyses. There are no changes being made to safety analysis assumptions, safety limits, or limiting safety system settings that would adversely affect plant safety as a result of the proposed changes. The proposed changes are associated with the Emergency Plan and staffing and do not impact operation of the plant or its response to transients or accidents. The proposed changes do not affect the Technical Specifications. The proposed changes do not involve a change in the method of plant operation, and no accident analyses will be affected by the proposed changes. Safety analysis acceptance criteria are not affected by the proposed changes and margins of safety are maintained. The revised Emergency Plan will

continue to provide the necessary response staff with the proposed changes.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

Based on the above, Exelon concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

6.4 Conclusion

In conclusion, based on the considerations discussed above: 1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, 2) such activities will be conducted in compliance with Commission's regulations, and 3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

7.0 ENVIRONMENTAL CONSIDERATION

The proposed changes are applicable to emergency planning standards for TMI involving on-shift and ERO staffing to support the planned permanent cessation of operations and permanent defueling of the facility. The proposed changes do not reduce the capability to meet the emergency planning standards established in 10 CFR 50.47 and 10 CFR 50, Appendix E. The proposed changes do not involve (i) a change to surety, insurance and/or indemnity requirements; (ii) a change to recordkeeping, reporting, or administrative procedures or requirements; (iii) a change to the licensee's or permit holder's name, phone number, business or e-mail address; (iv) a change to the name, position, or title of an officer of the licensee or permit holder, including but not limited to, the radiation safety officer or quality assurance manager; or (v) a change to the format of the license or permit or otherwise makes editorial, corrective or other minor revisions, including the updating of NRC approved references. Accordingly, the proposed changes meet the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(10). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed changes.

8.0 REFERENCES

1. Letter from J. Bradley Fewell (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Certification of Permanent Cessation of Power Operations for Three Mile Island Nuclear Station, Unit 1," dated June 20, 2017 (NRC Accession No. ML17171A151)
2. Letter from Michael P. Gallagher (Exelon Generation Company, LLC), to U.S. Nuclear Regulatory Commission, "License Amendment Request – Proposed Changes to Technical Specification Section 1.0, 'Definitions,' and 6.0, 'Administrative Controls' for Permanently Defueled Condition," dated November 10, 2017 (Adams Accession No. ML17314A024)
3. Letter from U.S. Nuclear Regulatory Commission to Bryan C. Hanson (Exelon Generation Company, LLC), "Three Mile Island Nuclear Station, Unit 1 - Approval

of Certified Fuel Handler Training and Retraining Program (CAC NO. MF9960; EPID L-2017-LLL-0013)," dated December 29, 2017 (NRC Accession No. ML17228A729)

4. NUREG-0654, FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, published November 1980
5. Federal Register Volume 76, Number 226, Wednesday, November 23, 2011, Rules and Regulations, "Enhancements to Emergency Preparedness Regulations; Final Rule."
6. NRC NSIR/DPR-ISG-01, "Interim Staff Guidance - Emergency Planning for Nuclear Power Plants," Revision 0, November 2011 (ADAMS Accession No. ML113010523)
7. NEI 10-05, Rev. 0, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities," June 2011 (ADAMS Accession No. ML111751698)
8. NRC Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors," Revision 2, October 1981, and Revision 4, July 2003
9. NRC Regulatory Guide 1.219, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors," November 2011 (ADAMS Accession No. ML102510626)
10. NRC Regulatory Issue Summary 2005-02, "Clarifying the Process for Making Emergency Plan Changes," Revision 1, April 19, 2011 (ADAMS Accession No. ML100340545)
11. Letter, USNRC to Entergy Nuclear Operations, Inc., "Vermont Yankee Nuclear Power Station – Issuance of Amendment to Renewed Facility Operating License Re: Changes to the Emergency Plan (TAC No. MF3668)," dated February 4, 2015 (ADAMS Accession No. ML14346A065)
12. Letter, USNRC to Omaha Public Power District, "Fort Calhoun Station – Unit 1 – Issuance of Amendment Re: Revise Emergency Plan to Address the Permanently Defueled Condition (CAC No. MF8326)," dated July 27, 2017 (ADAMS Accession No. ML17123A348)

Attachment 2

Three Mile Island Nuclear Station

Tabular Summary of Proposed Changes to Site Emergency Plan

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

Note: Regarding the format of this table, deleted text is indicated by ~~strike-through~~; added text is indicated by **Bold** font.

EP-TM 1000

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000	Note: This table provides a summary of changes to documents comprising the Three Mile Island Emergency Plan: EP-TM-1000. There are multiple editorial changes that are proposed in this license amendment request, i.e., they do not change the intent of the document. They do not impact the ability to comply with Regulatory Guidance or level of commitments made in the Emergency Plan. These changes are marked with revision bars within the Emergency Plan (except changes to step numbers); however, they are not specifically evaluated in the change assessment, since they are editorial. These include: • Changes in step numbers as a result of information which has been relocated or deleted. • Page number changes within the Table of Contents • Correction of spelling errors • Changes in the Table of Contents which reflect changes made within the Plan • Changes in Revision numbering and Revision History • Changes which reference the Exelon fleet are revised to specify Three Mile Island only.		
EP-TM-1000 Part II Section A.1.b.1 <u>Concept of Operations</u>	1) <u>The Station Organization</u>, directed by the Station Emergency Director, provides for: <...> • Notification of the appropriate individuals and agencies prior to EOF taking Command and Control.	1) <u>The Station Organization</u>, directed by the Station Emergency Director, provides for: <...> • Notification of the appropriate individuals and Federal agencies prior to EOF taking Command and Control.	The revision reflects that State/ local notifications will transfer directly from MCR to EOF. The TSC will only perform ENS (federal) notifications. EP functions for State/local and Federal communications will continue to be maintained.
EP-TM-1000 Part II Section B.1 <u>On Shift Emergency Response Organization Assignments</u>	1. <u>On Shift Emergency Response Organization Assignments</u> The normal plant personnel complement is established with the Station Vice President having overall authority for station operations. The Station Vice President directs the site organization in the management of the various	1. <u>On Shift Emergency Response Organization Assignments</u> The normal plant personnel complement is established with the Station ~~Vice President~~Plant Manager having overall authority for station operations. The Station ~~Vice President~~Plant Manager directs the site organization in the management of the various departments while the	The revision replaces the Station Vice President with the Plant Manager as having overall authority and directing the site organization. This change is in alignment with the site staffing changes being made in the TMI Technical Specifications, Section 6.0 Administrative Controls.

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	<i>departments while the Shift Manager retains the responsibility for actual operation of plant systems. <...></i>	Shift Manager retains the responsibility for actual operation of plant systems. <...>	Reference TMI License Amendment Request – Proposed Changes to Technical Specifications Section 6.0 Administrative Controls for Permanently Defueled Condition.
EP-TM-1000 Part II Section B.1 <u>On Shift Personnel</u>	<u>On Shift Personnel</u> <i>The TMI station has the capability at all times to perform detection, mitigation, classification, and notification functions required in the early phases of an emergency. Shift augmentation and further ERO involvement will be determined by the extent and magnitude of the event. When a transition to Severe Accident Management Guidelines (SAMG) is initiated, the shift crew assumes the duties and responsibilities of the SAMG Implementers.</i>	<u>On Shift Personnel</u> The TMI station has the capability at all times to perform detection, mitigation, classification, and notification functions required in the early phases of an emergency. Shift augmentation and further ERO involvement will be determined by the extent and magnitude of the event. ~~When a transition to Severe Accident Management Guidelines (SAMG) is initiated, the shift crew assumes the duties and responsibilities of the SAMG Implementers.~~	The revision removes reference to SAMG. SAMG scenarios are no longer applicable or required in defueled condition.
EP-TM-1000 Part II Section B.1 <u>On Shift Personnel</u>	<u>Shift Technical Advisor (STA):</u> During normal plant operations, the Senior Reactor Operators report to the Shift Manager and directly supervise the licensed Reactor Operators and all activities in the Control Room. During an abnormal condition, the Shift Manager assumes direct supervision of personnel and all activities in the Control Room while a qualified individual steps back and assumes an overview role as an STA with the specific responsibility of monitoring the maintenance of core cooling and containment integrity. An individual assigned the duty as the STA shall be available to the Control Room at all times.	~~<u>Shift Technical Advisor (STA):</u> During normal plant operations, the Senior Reactor Operators report to the Shift Manager and directly supervise the licensed Reactor Operators and all activities in the Control Room. During an abnormal condition, the Shift Manager assumes direct supervision of personnel and all activities in the Control Room while a qualified individual steps back and assumes an overview role as an STA with the specific responsibility of monitoring the maintenance of core cooling and containment integrity. An individual assigned the duty as the STA shall be available to the Control Room at all times.~~	The revision deletes reference to Shift Technical Advisor and aligns with staffing changes in TMI TS Section 6.0, Administrative Controls. TMI will no longer be an operating nuclear power plant. The STA function for a permanently shutdown reactor is no longer required. EP functional requirements for Technical Support will be performed by Shift Supervisor/ Certified Fuel Handler (CFH). Refer to Attachment 1, Section 5.2.5 for further discussion of the STA. Reference TMI License Amendment Request – Proposed Changes to Technical Specifications Section 6.0 Administrative Controls for Permanently Defueled Condition.

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II Section B.1	<i>Chemistry: The Station Chemistry personnel are responsible for sampling of system effluents, and the chemical and radio-analytical analysis of those samples. Included in this organization are Chemists, Chemistry Supervisors and Technicians.</i>	Chemistry: The Station Chemistry (or designated on-shift) personnel are responsible for sampling of system effluents, and the chemical and radio-analytical analysis of those samples. Included in this organization are Chemists, Chemistry Supervisors and Technicians.	The Chemistry Technician position will be removed from the post-shutdown on-shift staff. The paragraph is revised to recognize that other station personnel may be trained to perform chemistry tasks. Refer to Attachment 1, Section 5.2.4 for further discussion of the Chemistry function. The proposed elimination of the Chemistry Technician position has been evaluated in the TMI analysis of proposed post-shutdown on-shift staffing in conjunction with the postulated accidents that will be applicable in the permanently defueled condition.
EP-TM-1000 Part II Section B.3	3. Criteria for Assuming Command and Control (Succession) Emergency personnel assume responsibility for their positions upon receiving notification to activate. The responsibility for initial assessment of and response to an emergency rests with the Shift Manager. The Shift Manager is the Shift Emergency Director and has the Station Emergency Director's responsibilities and authority until relieved by a qualified Station Emergency Director. The Station Emergency Director, once having relieved the Shift Manager of the Emergency Director responsibilities, is responsible for continued assessment of the severity of the emergency and for the necessary functions as described in the E-Plan, the Station Annex, and the emergency implementing procedures. Final succession is achieved when the Corporate Emergency Director assumes overall Command and Control, and directs Exelon Nuclear's Emergency Response activities. The Shift Emergency Director is relieved of Command and Control as soon as possible after the declaration of an Alert (or higher classification if Alert not declared).	3. Criteria for Assuming Command and Control (Succession) Emergency personnel assume responsibility for their positions upon receiving notification to activate. The responsibility for initial assessment of and response to an emergency rests with the Shift Manager. The Shift Manager is the Shift Emergency Director and has the Station and Corporate Emergency Director's responsibilities and authority until relieved ~~by a qualified Station Emergency Director~~. The ~~Station Corporate~~ Emergency Director, once having relieved the Shift Manager of the Emergency Director responsibilities, is responsible for continued assessment of the severity of the emergency and for the necessary functions as described in the E-Plan, the Station Annex, and the emergency implementing procedures. ~~Final succession is achieved when the Corporate Emergency Director assumes overall Command and Control, and directs Exelon Nuclear's Emergency Response activities.~~ The Shift Emergency Director is relieved of Command and Control as soon as possible after the declaration of an	This change reflects that the Emergency Director (ED) command and control function will transfer directly from the Shift Manager/Shift ED to the Corporate ED located in the EOF. Following the command and control turnover, the Station ED takes responsibility for onsite Non-Delegable Responsibilities including Classification and Emergency Exposure Control. Refer to Attachment 1, Section 5.2.2 for further discussion of the succession of assuming command and control.

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	Command and Control may be transferred directly to the Corporate Emergency Director, or transferred to the Station Emergency Director on an interim basis. Command and Control does not transfer until the following criteria have been met:	Alert (or higher classification if Alert not declared). ~~Command and Control may be transferred directly to the Corporate Emergency Director, or transferred to the Station Emergency Director on an interim basis.~~ Following the Command and Control turnover, the Corporate Emergency Director shall have overall Command and Control of the Emergency Response. Note that the Station Emergency Director takes responsibility for onsite Non-Delegable Responsibilities including Classification and Emergency Exposure Control. The Corporate Emergency Director takes responsibility for offsite Non-Delegable Responsibilities including Protective Action Recommendations and State/local Notifications. Command and Control does not transfer until the following criteria have been met:	
EP-TM-1000 Part II Section B.4	4. Non-Delegable Responsibilities <i>When the Station Emergency Director assumes overall authority and responsibility for performing all of the non delegable duties from the Shift Manager, the Corporate Emergency Director (EOF) will subsequently relieve the Station Emergency Director (TSC) of overall Command and Control and assume the non-delegable responsibilities for PAR determination and notifications to offsite authorities.</i>	4. Non-Delegable Responsibilities ~~When the Station Emergency Director assumes overall authority and responsibility for performing all of the non-delegable duties from the Shift Manager, the Corporate Emergency Director (EOF) will subsequently relieve the Station Emergency Director (TSC) of overall Command and Control and assume the non-delegable responsibilities for PAR determination and notifications to offsite~~ Classification and Emergency Exposure Control. The Station Emergency Director (EOF) will subsequently relieve the Station Emergency Director (TSC) of overall Command and Control and assume the non-delegable responsibilities for PAR determination and notifications to offsite State and Local authorities.	This change reflects the revised transfer of responsibilities of Non-Delegable Duties from the MCR to the EOF. The removal of the TSC S/L Communicator and the Rad Controls Coordinator make it appropriate for the S/L communication and PAR functions to be transferred directly to the EOF. The EOF S/L communicator and the Dose Assessment Coordinator are required for Min Staff and will be available to take these responsibilities without delaying the relief of responsibility from the on-shift staff. This change also reflects the elimination of the ENS Communicator from the EOF. ENS Communications will be completed from the Control Room and the TSC. Refer to Attachment 1, Section 5.2.2 for further discussion of the

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change																																				
			succession of assuming command and control.																																				
EP-TM-1000 Part II Section B.4	<u>Transition of "Non-Delegable" Responsibilities</u> <table><tr><td>Control Room (Shift ED)</td><td>TSC (Station ED)</td><td>EOF (Corporate ED)</td></tr><tr><td>Classification →</td><td>Classification</td><td></td></tr><tr><td>PARs →</td><td>PARs →</td><td>PARs</td></tr><tr><td>PARs →</td><td>→</td><td>PARs</td></tr><tr><td>Notification →</td><td>Notification →</td><td>Notification</td></tr><tr><td>Notification →</td><td>→</td><td>Notification</td></tr></table>	Control Room (Shift ED)	TSC (Station ED)	EOF (Corporate ED)	Classification →	Classification		PARs →	PARs →	PARs	PARs →	→	PARs	Notification →	Notification →	Notification	Notification →	→	Notification	<u>Transition of "Non-Delegable" Responsibilities</u> <table><tr><td>Control Room (Shift ED)</td><td>TSC (Station ED)</td><td>EOF (Corporate ED)</td></tr><tr><td>Classification →</td><td>Classification</td><td></td></tr><tr><td>~~PARs →~~</td><td>~~PARs →~~</td><td>~~PARs~~</td></tr><tr><td>PARs →</td><td>→</td><td>PARs</td></tr><tr><td colspan="3">~~NRC Notification → NRC Notification — Notification~~</td></tr><tr><td>S/L Notification →</td><td>→</td><td>S/L Notification</td></tr></table>	Control Room (Shift ED)	TSC (Station ED)	EOF (Corporate ED)	Classification →	Classification		~~PARs →~~	~~PARs →~~	~~PARs~~	PARs →	→	PARs	~~NRC Notification → NRC Notification — Notification~~			S/L Notification →	→	S/L Notification	This change is a pictorial representation of the revision above in Part II, Section B.4.
Control Room (Shift ED)	TSC (Station ED)	EOF (Corporate ED)																																					
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S/L Notification →	→	S/L Notification																																					
EP-TM-1000 Part II Section B.5	5. Emergency Response Organization Positional Responsibilities ERO staffing tables contained within this Emergency Plan outline ERO positions required to meet minimum staffing and full augmentation of the on-shift complement at an Alert or higher classification, and the major tasks assigned to each position. The full augmentation staffing levels are used as a planning basis to cover a wide range of possible. For extended events (one which lasts for more than 24 hours), actual staffing will be established by the Emergency Director based on the event and personnel availability. However, additional staffing or reduced staffing will only occur after discussion concerning the impact on plant operations and emergency response.	5. Emergency Response Organization Positional Responsibilities The Emergency Plan designates two types of augmented ERO responders. Those designated as Minimum Staff are those key ERO needed to relieve the on-shift staff of key EP functions/tasks required in response to the Emergency and are those required to activate their respective Emergency Response Facility (ERF). Specifically, these are the ERO that are the absolute minimum needed to implement the emergency plan (i.e., if any position or function is not staffed then the emergency plan may not be effectively implemented). These positions in most cases are required to respond to their respective ERF within 60 minutes of the declaration of an Alert or higher. The positions which are considered Full Augmented staff (i.e., non-min staff) are those positions which provide support for the minimum staff in their response to the Emergency. The Full Augmentation positions consist mostly of liaisons, coordinators and additional communicators which help facilitate communication and the emergency response effort	This change describes the differences between Minimum Staffing and Full Augmentation staff as they effect the implementation of the ERF. Many Full Augmentation staff positions are being relocated from the station emergency plan (SEP) and will be managed and controlled under Emergency Preparedness Implementing Procedures (EPIPs). Full Augmentation staff provides support functions and are not essential for implementation of Emergency Planning Functions, and can be removed from the SEP and be managed and controlled by EPIPs without impacting TMI's ability to respond to a spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor.																																				

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
		over time, but are not directly needed to implement the functions/tasks identified in the Emergency Plan. ERO staffing tables contained within this Emergency Plan outline ERO positions required to meet minimum staffing and full augmentation of the on-shift complement at an Alert or higher classification, and the major tasks assigned to each position. The full augmentation staffing levels are used as a planning basis to cover a wide range of possible events described in Emergency Preparedness Implementing Procedures (EPIPs). For extended events (one which lasts for more than 24 hours), actual staffing will be established by the Emergency Director based on the event and personnel availability. However, additional staffing or reduced staffing will only occur after discussion concerning the impact on plant operations and emergency response.	
EP-TM-1000 Part II Section B.5.a Station Emergency Response Organization	<i>When plant conditions warrant entry into the Severe Accident Management Guidelines (SAMGs), the Station Emergency Director or other qualified individual (e.g., Operations Manager) assumes the role of Decision-Maker. The Technical Manager and/or another qualified individual(s) assumes the role of Evaluator (at least 2 are required), and the Control Room staff assumes the role of Implementers. Control Room personnel will perform mitigating actions for severe accidents per EOPs prior to TSC activation.</i>	~~When plant conditions warrant entry into the Severe Accident Management Guidelines (SAMGs), the Station Emergency Director or other qualified individual (e.g., Operations Manager) assumes the role of Decision-Maker. The Technical Manager and/or another qualified individual(s) assumes the role of Evaluator (at least 2 are required), and the Control Room staff assumes the role of Implementers. Control Room personnel will perform mitigating actions for severe accidents per EOPs prior to TSC activation.~~	The revision removes reference to SAMGs. SAMG scenarios are no longer applicable or required in defueled condition. Refer to Attachment 1, Section 5.2.5 for further discussion.
EP-TM-1000 Part II Section B.5.a.1 Shift Manager (Shift Emergency Director) Control Room	<i>The on-duty Shift Manager directs the activities of the operating crew and is responsible for the safe operation of the plant in compliance with the station NRC operating license and the station operating procedures. The Shift Manager, after relinquishing Command and Control, functionally reports to the Operations Manager in the TSC.</i> <i>The Shift Manager's responsibilities, when not in Command and Control, are described below:</i> <i>The authority and responsibility to shut down the reactor when determined that the safety of the reactor is in jeopardy or when operating parameters exceed any of the reactor protection circuit set-points and automatic shutdown does not occur;</i>	The on-duty Shift Manager directs the activities of the operating crew and is responsible for the safe operation of the plant in compliance with the station NRC operating license and the station operating procedures. The Shift Manager, after relinquishing Command and Control, functionally reports to the Operations Manager in the TSC. The Shift Manager's responsibilities, when not in Command and Control, are described below: ~~The authority and responsibility to shut down the reactor when determined that the safety of the reactor is in jeopardy or when operating parameters exceed any of the reactor protection circuit set-points and automatic shutdown does not occur;~~	The revision reflects that the duties of the shift manager no longer include shutting down the reactor or review prior to returning to power. The permanent shutdown of the TMI reactor makes this step unnecessary within the Emergency Plan. This revision deletes reference to the Operations Communicator and Damage Control Communicator in the MCR. The

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	- To ensure a review has been completed to determine the circumstance, cause, and limits under which operations can safely proceed before the reactor is returned to power following a trip or an unscheduled or unexplained power reduction; - The responsibility to be present at the plant and to provide direction for returning the reactor to power following a trip or an unscheduled or unexplained power reduction; - The responsibility to adhere to the station Technical Specifications and to review routine operating data to assure safe operation; - The responsibility to identify applicable EALs and emergency classifications; and - The responsibility to adhere to plant operating procedures and the requirements for their use. During an emergency, operations personnel may depart from approved procedures where necessary to prevent injury to personnel, including the public, or damage to the facility consistent with the requirements of 10 CFR 50.54(x) and (y). - Supervise the activities of the Control Room Crew, Operations Communicator and Damage Control Communicator in the Control Room.	~~To ensure a review has been completed to determine the circumstance, cause, and limits under which operations can safely proceed before the reactor is returned to power following a trip or an unscheduled or unexplained power reduction;~~ ~~The responsibility to be present at the plant and to provide direction for returning the reactor to power following a trip or an unscheduled or unexplained power reduction;~~ - The responsibility to adhere to the station Technical Specifications and to review routine operating data to assure safe operation; - The responsibility to identify applicable EALs and emergency classifications; and - The responsibility to adhere to plant operating procedures and the requirements for their use. During an emergency, operations personnel may depart from approved procedures where necessary to prevent injury to personnel, including the public, or damage to the facility consistent with the requirements of 10 CFR 50.54(x) and (y). - Supervise the activities of the Control Room Crew, ~~Operations Communicator and Damage Control Communicator in the Control Room.~~	Operations Communicator and the Damage Control Communicator are removed from the ERO augmented staff and their ERF communication function will be performed by the Operations staff. This revision is further discussed in Attachment 4, ERO Task Analysis. The re-assignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).
EP-TM-1000 Part II Section B.5.a.2 Station Emergency Director (TSC)	a) <u>Station Emergency Director Responsibilities while in Command and Control:</u> - Perform all non-delegable responsibilities as the Emergency Director in Command and Control until relieved by the EOF. <...> b) <u>Station Emergency Director Responsibilities while not in Command and Control:</u> <...> - Assume the duties and responsibilities of Decision-Maker when a transition to Severe Accident Management Guidelines (SAMGs) is initiated. This responsibility can be delegated to the Operations Manager if qualified.	a) <u>Station Emergency Director Responsibilities ~~while in Command and Control:~~</u> ~~Perform all non-delegable responsibilities as the Emergency Director in Command and Control until relieved by the EOF.~~ <...> b) <u>~~Station Emergency Director Responsibilities while not in Command and Control:~~</u> <...> ~~Assume the duties and responsibilities of Decision-Maker when a transition to Severe Accident Management Guidelines (SAMGs) is initiated. This responsibility can be delegated to the Operations Manager if qualified.~~	This revision removes the distinction of responsibilities between when the Station ED is and is not in command and control. The command and control function transfers directly from the Shift ED to the Corporate ED. The Station ED will take responsibility for onsite Non-Delegable Responsibilities including Classification and Emergency Exposure Control. This revision removes reference to SAMGs. SAMG scenarios are no longer applicable or required in defueled condition.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II Section B.5.a.3 TSC Director (TSC)	3) TSC Director TSC The TSC Director reports to the Station Emergency Director and is responsible for the content of information transmitted from the TSC to other agencies (or facilities) and for documenting information received at the TSC in coordination with the Station Emergency Director. Responsibilities include: - Verify that qualified individuals are filling Communicator positions in the Control Room, TSC and OSC. - Supervise the activities of the Logistics Coordinator and state/local Communicator. - Ensure that communications are established with appropriate parties as directed by the Station Emergency Director. - Ensure that all required notifications to offsite governmental agencies (state/local and NRC) are timely and accurate. - Act as the Exelon Nuclear Liaison to any NRC Site Team Representatives. - Ensure that the NRC Site Team Representatives are directed to their appropriate counterparts. - Assist the Corporate Emergency Director in the acquisition of information for off-site agency updates. - Record and relay inquiries to the Station Emergency Director. In addition, record responses to such inquiries prior to transmission. - Assist the Station Emergency Director in maintaining proper records.	~~3) TSC Director TSC~~ ~~The TSC Director reports to the Station Emergency Director and is responsible for the content of information transmitted from the TSC to other agencies (or facilities) and for documenting information received at the TSC in coordination with the Station Emergency Director. Responsibilities include:~~ ~~Verify that qualified individuals are filling Communicator positions in the Control Room, TSC and OSC.~~ ~~Supervise the activities of the Logistics Coordinator and state/local Communicator.~~ ~~Ensure that communications are established with appropriate parties as directed by the Station Emergency Director.~~ ~~Ensure that all required notifications to offsite governmental agencies (state/local and NRC) are timely and accurate.~~ ~~Act as the Exelon Nuclear Liaison to any NRC Site Team Representatives.~~ ~~Ensure that the NRC Site Team Representatives are directed to their appropriate counterparts.~~ ~~Assist the Corporate Emergency Director in the acquisition of information for off-site agency updates.~~ ~~Record and relay inquiries to the Station Emergency Director. In addition, record responses to such inquiries prior to transmission.~~ ~~Assist the Station Emergency Director in maintaining proper records.~~	This revision deletes the TSC Director position from the TMI ERO. The TSC Director does not directly perform actions necessary to accomplish functions under NUREG-0654, but rather supports other personnel at the TSC. This revision is further discussed in Attachment 1, Section 5.2.3, Evaluation of Proposed Changes and Attachment 4, ERO Task Analysis.
EP-TM-1000 Part II Section B.5.a.4 Communicators TSC	4) Communicators CR/TSC/OSC The Communicators are responsible for transmitting/receiving information to and from the TSC, OSC and Control Room. General responsibilities assigned to all Communicators include:	34) ENS Communicators CR/TSC/OSC ~~The Communicators are responsible for transmitting/receiving information to and from the TSC, OSC and Control Room.~~ General responsibilities assigned to ~~all~~ the ENS Communicators include:	This step is revised to only describe the responsibilities of the ENS communicator in the TSC.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	- Establish communications with appropriate parties as directed. - Transmit information that has been reviewed and/or approved by the responsible Manager or Coordinator. - Document time, date and information being transmitted or received on appropriate forms. - Record and relay inquiries and the responses to those inquiries. - Assist appropriate Managers and Coordinators in maintaining proper records and logs of emergency related activities. - Gather, record and post appropriate information. a) Specific responsibilities assigned to the <u>State/Local Communicator</u> include: - Communicate and receive information via the Nuclear Accident Reporting System (NARS) circuit or commercial telephone line with appropriate agencies prior to the EOF accepting Command and Control. - Monitor NARS communications until released by the TSC Director. b) Specific responsibilities assigned to the <u>Damage Control Communicator</u> include: - Relay requests from the Control Room and TSC for the dispatching of OSC Teams. - Apprise the station emergency response facilities of the status of OSC Team activities. c) Specific responsibilities assigned to the <u>Operations Communicator</u> include: - Apprise the TSC and EOF staff of the overall plant condition and significant changes to system and equipment status. - Inform the Control Room, TSC, and EOF of significant changes in event status (e.g. changes in classification, command and control, initiation	- Establish communications with appropriate parties as directed. - Transmit information that has been reviewed and/or approved by the responsible Manager or Coordinator. - Document time, date and information being transmitted or received on appropriate forms. - Record and relay inquiries and the responses to those inquiries. - Assist appropriate Managers and Coordinators in maintaining proper records and logs of emergency related activities. - Gather, record and post appropriate information. ~~a) Specific responsibilities assigned to the <u>State/Local Communicator</u> include:~~ ~~Communicate and receive information via the Nuclear Accident Reporting System (NARS) circuit or commercial telephone line with appropriate agencies prior to the EOF accepting Command and Control.~~ ~~Monitor NARS communications until released by the TSC Director.~~ ~~b) Specific responsibilities assigned to the <u>Damage Control Communicator</u> include:~~ ~~Relay requests from the Control Room and TSC for the dispatching of OSC Teams.~~ ~~Apprise the station emergency response facilities of the status of OSC Team activities.~~ ~~c) Specific responsibilities assigned to the <u>Operations Communicator</u> include:~~ ~~Apprise the TSC and EOF staff of the overall plant condition and significant changes to system and equipment status.~~ ~~Inform the Control Room, TSC, and EOF of significant changes in event status (e.g. changes in classification, command and control, initiation~~	Refer to Attachment 1, Section 5.2.3 for further discussion. Evaluation of the ERO Communicator position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. a) This revision reflects that the State and Local (S/L) Communicator function will be relocated from the TSC to the EOF. The EOF S/L communicator is discussed on section B.5.b.5 of EP-TM-1000. b) This revision deletes the Damage Control Communicator (DCC) position from the TMI ERO. The DCC is not a minimum staffing position and not required to activate the TSC or OSC. c) This revision deletes the Operations Communicator position from the TMI ERO. The Operations Communicator is not a minimum staffing position and is not required to activate the TSC. d) This revision deletes the Technical Communicator position from the TMI ERO. The Technical Communicator is not a

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	of station assembly, accountability, evacuation, etc.). d) Specific responsibilities assigned to the TSC Technical Communicator include: - Establish and maintain contact with the EOF Technical Advisor. - Provide EOF with updates on technical support activities and priorities. e) Specific responsibilities assigned to the <u>ENS Communicator</u> include: - Notify the NRC of changes in event classification, prior to the EOF accepting Command and Control, and assist the EOF ENS Communicator in completing the NRC Event Notification Worksheet and responding to NRC inquiries. - Provide real time updates of significant changes to plant and system status and responses to NRC inquiries. - Maintain continuous communications with the NRC, if requested, via the NRC ENS phone or commercial telephone line f) Specific responsibilities assigned to the <u>HPN Communicator</u> include: - Maintain continuous communications with the NRC, if requested, via the NRC Health Physics Network (HPN) phone or commercial telephone line. - Communicate current Health Physics information to NRC representatives, as requested. - Coordinate the communications of radiological information to the NRC with the EOF HPN Communicator (onsite vs. environmental data).	~~of station assembly, accountability, evacuation, etc.).~~ ~~d) Specific responsibilities assigned to the TSC Technical Communicator include:~~ ~~Establish and maintain contact with the EOF Technical Advisor.~~ ~~Provide EOF with updates on technical support activities and priorities.~~ ~~e) Specific responsibilities assigned to the <u>ENS Communicator</u> include:~~ - Notify the NRC of changes in event classification, prior to the EOF accepting Command and Control, and assist the EOF ENS Communicator in completing the NRC Event Notification Worksheet and responding to NRC inquiries. - Provide real time updates of significant changes to plant and system status and responses to NRC inquiries. - Maintain continuous communications with the NRC, if requested, via the NRC ENS phone or commercial telephone line. ~~f) Specific responsibilities assigned to the <u>HPN Communicator</u> include:~~ ~~Maintain continuous communications with the NRC, if requested, via the NRC Health Physics Network (HPN) phone or commercial telephone line.~~ ~~Communicate current Health Physics information to NRC representatives, as requested.~~ ~~Coordinate the communications of radiological information to the NRC with the EOF HPN Communicator (onsite vs. environmental data).~~	minimum staffing position and is not required to activate the TSC. e) This revision reflects that the ENS Communicator responsibilities will not be performed in the EOF, therefore it will no longer be necessary to assist the EOF ENS Communicator. The EOF ENS communication position is a Full Augmentation position that will be managed and controlled by EIPs without impacting TMI's ability to respond to a spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor. f) This revision deletes the HPN Communicator in the TSC. Since all dose assessment and control of the field monitoring teams will be transferred to the EOF, the HPN communicator in the TSC can be eliminated. The re-assignment of all these ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II Section B.5.a.5 Operations Manager TSC	5) <u>Operations Manager</u> TSC <...> Responsibilities include: • Coordinate TSC efforts in determining the nature and extent of emergencies pertaining to equipment and plant facilities in support of Control Room actions. • Initiate immediate corrective actions to limit or contain the emergency invoking the provisions of 10 CFR 50.54(x) if appropriate, and specifically when addressing Severe Accident Management Guidelines (SAMG). • <...> • Supervise the activities of the Operations Communicator and the ENS Communicator in the TSC. • Act as the TSC liaison with the appropriate NRC Site Team Representative. • At the direction of the Station Emergency Director, assume the duties and responsibilities of the Evaluator, or Decision-Maker if qualified, when transition to Severe Accident Management Guidelines (SAMG) is initiated.	45) <u>Operations Manager</u> TSC <...>Responsibilities include: Coordinate TSC efforts in determining the nature and extent of emergencies pertaining to equipment and plant facilities in support of Control Room actions • Initiate immediate corrective actions to limit or contain the emergency invoking the provisions of 10 CFR 50.54(x) if appropriate, ~~and specifically when addressing Severe Accident Management Guidelines (SAMG).~~ • <...> • Supervise the activities of the ~~Operations Communicator and the~~ ENS Communicator in the TSC. • Act as the TSC liaison with the appropriate NRC Site Team Representative. • ~~At the direction of the Station Emergency Director, assume the duties and responsibilities of the Evaluator, or Decision-Maker if qualified, when transition to Severe Accident Management Guidelines (SAMG) is initiated.~~ • Apprise the TSC and EOF staff of the overall plant condition and significant changes to system and equipment status. • Inform the Control Room, TSC, and EOF of significant changes in event status (e.g. changes in classification, command and control, initiation of station assembly, accountability, evacuation, etc.).	This revision deletes reference to SAMGs. SAMG scenarios are no longer applicable or required in defueled condition. This revision deletes reference to the Operations Communicator. The Operations Communicator is being deleted from the TMI ERO. This revision is further discussed in Attachment 4, ERO Task Analysis. The revision reflects the additional responsibilities transferred to the TSC OPs Manager from the Operations Communicator position deleted in this LAR. The additional responsibilities are in alignment with actions already performed by the OPs Manager and do not represent an undue burden for the OPs Manager given the permanently shutdown and defueled condition and limited possible accident scenarios. Refer to Attachment 1, Section 5.2.5 for further discussion. The re-assignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).
EP-TM-1000 Part II Section B.5.a.6 Technical Manager TSC	6) <u>Technical Manager</u> TSC The Technical Manager reports to the Station Emergency Director and directs a staff in performing technical	56) <u>Technical Manager</u> TSC The Technical Manager reports to the Station Emergency Director and ~~performs~~ directs a staff in performing	The revision deletes reference to Core Damage Assessment. Core Damage Assessment is no longer needed for a permanently shutdown and defueled reactor.

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	<i>assessments of station emergencies and assists in recovery planning. Responsibilities include:</i> • <i>Accumulate, tabulate and evaluate data on plant conditions.</i> • <i>Evaluate plant parameters during an emergency to determine the overall plant condition.</i> • <i>Coordinate core damage assessment activities.</i> • <i>Identify data points and control parameters that the Operations staff should monitor.</i> • <i>Ensure that current and adequate technical information is depicted on status boards.</i> • <i>Identify and direct staff in the development of special procedures needed to effect long-term safe shutdown or to mitigate a release.</i> • <i>Supervise the total onsite technical staff effort.</i> • <i>Act as the TSC liaison with state and appropriate NRC Site Team representatives.</i> • <i>Assist the Radiation Protection Manager for onsite radiological/technical matters.</i> • <i>Assist the Station Emergency Director in evaluating plant based PARs (prior to Corporate Emergency Director accepting command and control) and changes in event classification.</i> • <i>Supervise the activities of the TSC Technical Communicator.</i> • <i>Assume the duties and responsibilities of an Evaluator when transition to Severe Accident Management Guidelines (SAMG) is initiated and supervise the activities of the SAMG Evaluator Team</i>	technical assessments of station emergencies and assists in recovery planning. Responsibilities include: • Accumulate, tabulate and evaluate data on plant conditions. • Evaluate plant parameters during an emergency to determine the overall plant condition. • ~~Coordinate core damage assessment activities.~~ • Identify data points and control parameters that the Operations staff should monitor. • Ensure that current and adequate technical information is depicted on status boards. • Identify, and ~~direct staff in the development of~~ special procedures needed ~~to effect long-term safe shutdown or~~ to mitigate a release. • ~~Supervise the total onsite technical staff effort.~~ • Act as the TSC liaison with state and appropriate NRC Site Team representatives. • Assist the Radiation Protection Manager for onsite radiological/technical matters. • Provide EOF with updates on technical support activities and priorities. • Ensure that the NRC Site Team Representatives are directed to their appropriate counterparts. • ~~Assist the Station Emergency Director in evaluating plant based PARs (prior to Corporate Emergency Director accepting command and control) and changes in event classification.~~ • ~~Supervise the activities of the TSC Technical Communicator.~~ • ~~Assume the duties and responsibilities of an Evaluator when transition to Severe Accident Management Guidelines (SAMG) is initiated and supervise the activities of the SAMG Evaluator Team.~~	The revision deletes reference to the TSC Technical Staff. The revision recognizes that in some conditions, engineering/technical staff may not be required or present. The Technical Manager will request additional support staff as needed based on the emergency condition. The revision recognizes the TSC Technical Communicator position has been removed from the ERO. See Attachment 1 Section 5.2.5, of the LAR for further discussion of the deletion of the Technical Communicator position. This revision deletes the reference to SAMGs. SAMG scenarios are no longer applicable or required in defueled condition. The revision reflects the additional responsibilities transferred to the TSC Technical Manager from positions deleted in this LAR. The additional responsibilities are in alignment with actions already performed by the Technical Manager and do not represent an undue burden for the Technical Manager given the permanently shutdown and defueled condition and limited possible accident scenarios. The re-assignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
			(reference Attachment 5 Commitments).
EP-TM-1000 Part II Section B.5.a.7 Technical Support Staff TSC	7) <u>Technical Support Staff</u> <u>TSC</u> The TSC Technical Support Staff consists of the following minimum staff engineering positions: – Electrical Engineer – Mechanical Engineer – Core/Thermal Hydraulic Engineer - serves as Core Damage Assessment Methodology (CDAM) Evaluator, as applicable. In addition, station Engineering support will be augmented on an as needed basis to support accident assessment and mitigation activities.	~~7) <u>Technical Support Staff</u> <u>TSC</u>~~ ~~The TSC Technical Support Staff consists of the following minimum staff engineering positions:~~ ~~– Electrical Engineer~~ ~~– Mechanical Engineer~~ ~~– Core/Thermal Hydraulic Engineer - serves as Core Damage Assessment Methodology (CDAM) Evaluator, as applicable.~~ ~~In addition, station Engineering support will be augmented on an as needed basis to support accident assessment and mitigation activities.~~	The TSC Technical Support Staff positions are being deleted from the TMI ERO. This revision is further discussed in Attachment 1, Section 5.2.5, Evaluation of Proposed Changes. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B.5.a.8 Logistics Coordinator TSC	8) <u>Logistics Coordinator</u> <u>TSC</u> The Logistics Coordinator reports to the TSC Director and provides administrative services in support of emergency/recovery operations. Responsibilities include: • Coordinate shift relief and continual staffing of the station. • Arrange for clerical staff at the TSC, OSC and Control Room. • Assist the Security Coordinator in coordinating ERO and station activities in support of on-going security contingency, accountability or site/area evacuation efforts. • Support the processing of special procedures and interim reports during an emergency. • Ensure that event status and priority logs are being maintained in the TSC. • Coordinate record-keeping efforts at the station. • Arrange for food, sleeping facilities and other necessary accommodations for onsite emergency workers.	~~8) <u>Logistics Coordinator</u> <u>TSC</u>~~ ~~The Logistics Coordinator reports to the TSC Director and provides administrative services in support of emergency/recovery operations. Responsibilities include:~~ ~~• Coordinate shift relief and continual staffing of the station.~~ ~~• Arrange for clerical staff at the TSC, OSC and Control Room.~~ ~~• Assist the Security Coordinator in coordinating ERO and station activities in support of on-going security contingency, accountability or site/area evacuation efforts.~~ ~~• Support the processing of special procedures and interim reports during an emergency.~~ ~~• Ensure that event status and priority logs are being maintained in the TSC.~~ ~~• Coordinate record-keeping efforts at the station.~~ ~~• Arrange for food, sleeping facilities and other necessary accommodations for onsite emergency workers.~~	The TSC Logistics Coordinator position is being deleted from the TMI ERO. The Logistics Coordinator does not perform any essential tasks required for support of Emergency Planning Functions. This revision is further discussed in Attachment 1, Section 5.2.10, Evaluation of Proposed Changes. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	• Arrange for specialized training of Emergency Response personnel as needed.	~~• Arrange for specialized training of Emergency Response personnel as needed.~~	
EP-TM-1000 Part II Section B.5.a.9 Radiation Protection Manager (RPM) TSC	9) <u>Radiation Protection Manager (RPM)</u> TSC The Radiation Protection Manager reports to the Station Emergency Director and supervises the activities of the Radiation Controls Coordinator and Radiation Controls Engineer. The TSC RPM directs a staff in determining the extent and nature of radiological or hazardous material problems onsite. Responsibilities include: • <...> • Assist the Station Emergency Director in evaluating dose-based PARs (prior to Corporate Emergency Director accepting command and control) and changes in radiological event classification.	69) <u>Radiation Protection Manager (RPM)</u> TSC The Radiation Protection Manager reports to the Station Emergency Director ~~and supervises the activities of the Radiation Controls Coordinator and Radiation Controls Engineer.~~ The TSC RPM directs a staff in determining the extent and nature of radiological or hazardous material problems onsite. Responsibilities include: • <...> • ~~Assist the Station Emergency Director in evaluating dose-based PARs (prior to Corporate Emergency Director accepting command and control) and changes in radiological event classification.~~ • <...> • Monitor habitability concerns impacting access to plant and site areas. • Evaluate radiological and hazardous material surveys and chemistry sample results as appropriate. • Assemble and dispatch Field Monitoring teams as required.	The revision recognizes the TSC Radiation Controls Coordinator (RCC) and the Radiation Controls Engineer (RCE) positions have been removed from the ERO. See Attachment 1, Section 5.2.4 and 5.2.5, of the LAR for further discussion. The function to assist the Station ED with evaluating dose for PARs is being deleted since that function will transfer directly from the Shift ED to the Corporate ED. The revision reflects the additional responsibilities transferred to the TSC RPM from the RCC and RCE positions deleted in this LAR. The additional responsibilities are in alignment with actions already performed by the RPM and do not represent an undue burden for the RPM given the permanently shutdown and defueled condition and limited possible accident scenarios. The re-assignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).
EP-TM-1000	10) <u>Radiation Controls Engineer (RCE)</u> TSC The Radiation Controls Engineer reports to the Radiation Protection Manager and coordinates the radiological and	~~10) <u>Radiation Controls Engineer (RCE)</u> TSC~~ ~~The Radiation Controls Engineer reports to the Radiation Protection Manager and coordinates the radiological and~~	The revision deletes the Radiation Controls Engineer position from the TMI ERO. The dose assessment function

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
Part II Section B.5.a.10 Radiation Controls Engineer (RCE) TSC	<i>chemistry interface between the technical support engineering efforts. Responsibilities include:</i> • <i>Monitor area and process radiation monitors to identify trends and potential hazards within the station.</i> • <i>Evaluate plant environmental factors regarding radiological and other hazardous material conditions.</i> • <i>Evaluate radiological and hazardous material surveys and chemistry sample results as appropriate.</i> • <i>Direct the performance of sampling activities through coordination with the OSC Chemistry Lead in support of operations and core damage estimates as necessary.</i> • <i>Coordinate radiological and chemistry information with the Core/Thermal Hydraulic Engineer in support of core damage assessment.</i>	~~<i>chemistry interface between the technical support engineering efforts. Responsibilities include:</i>~~ ~~• <i>Monitor area and process radiation monitors to identify trends and potential hazards within the station.</i>~~ ~~• <i>Evaluate plant environmental factors regarding radiological and other hazardous material conditions.</i>~~ ~~• <i>Evaluate radiological and hazardous material surveys and chemistry sample results as appropriate.</i>~~ ~~• <i>Direct the performance of sampling activities through coordination with the OSC Chemistry Lead in support of operations and core damage estimates as necessary.</i>~~ ~~• <i>Coordinate radiological and chemistry information with the Core/Thermal Hydraulic Engineer in support of core damage assessment.</i>~~	directly transfers from on-shift to the EOF with no performance of these tasks in the TSC. The TSC RPM revision reflects the additional responsibilities transferred to the TSC RPM from the RCE position. This revision is further discussed in Attachment 1, Section 5.2.5, Evaluation of Proposed Changes. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B.5.a.11 Radiation Controls Coordinator (RCC) TSC	<u>11) Radiation Controls Coordinator (RCC) TSC</u> <i>The Radiation Controls Coordinator reports to the Radiation Protection Manager. The RCC coordinates site and in-plant Radiation Protection response activities through the OSC Radiation Protection Lead. Responsibilities include:</i> • <i>Support the OSC Radiation Protection Lead in the dispatching of OSC Teams.</i> • <i>Assist the Operations Manager in planning radiological controls for personnel dispatched from the Control Room.</i> • <i>Ensure the proper use of protective clothing, respiratory protection, and access controls in the plant as appropriate to control personnel exposure.</i> • <i>Monitor habitability concerns impacting access to plant and site areas.</i>	~~<u>11) Radiation Controls Coordinator (RCC) TSC</u>~~ ~~<i>The Radiation Controls Coordinator reports to the Radiation Protection Manager. The RCC coordinates site and in-plant Radiation Protection response activities through the OSC Radiation Protection Lead. Responsibilities include:</i>~~ ~~• <i>Support the OSC Radiation Protection Lead in the dispatching of OSC Teams.</i>~~ ~~• <i>Assist the Operations Manager in planning radiological controls for personnel dispatched from the Control Room.</i>~~ ~~• <i>Ensure the proper use of protective clothing, respiratory protection, and access controls in the plant as appropriate to control personnel exposure.</i>~~ ~~• <i>Monitor habitability concerns impacting access to plant and site areas.</i>~~	The revision deletes the TSC Radiation Controls Coordinator position from the TMI ERO. The dose assessment function directly transfers from on-shift to the EOF with no performance of these tasks in the TSC. The TSC RPM revision reflects the additional responsibilities transferred to the TSC RPM from the RCC position. This revision is further discussed in Attachment 1, Section 5.2.4, Evaluation of Proposed Changes. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	<i>In coordination with the OSC Radiation Protection Lead, assemble and dispatch the Field Monitoring Teams as required.</i> <i>Supervise the activities of the HPN Communicator in the TSC.</i> <i>Request additional Radiation Protection personnel and/or equipment, as necessary in support of station activities and staff relief.</i> <i>Prior to EOF Protective Measures Group staffing:</i> <i>Perform dose assessments and provide appropriate dose-based PARS.</i> <i>Coordinate Field Monitoring Team activities.</i> <i>Monitor meteorological conditions and remain cognizant of forecast data.</i> <i>Following EOF Protective Measures Group staffing:</i> <i>Transfer responsibility of dose assessment activities and control of the Field Monitoring Teams to the EOF Dose Assessment Coordinator when appropriate.</i> <i>Assist the EOF Dose Assessment Coordinator in the acquisition of information for the off-site agency updates.</i>	~~<i>In coordination with the OSC Radiation Protection Lead, assemble and dispatch the Field Monitoring Teams as required.</i>~~ ~~<i>Supervise the activities of the HPN Communicator in the TSC.</i>~~ ~~<i>Request additional Radiation Protection personnel and/or equipment, as necessary in support of station activities and staff relief.</i>~~ ~~<i>Prior to EOF Protective Measures Group staffing:</i>~~ ~~<i>Perform dose assessments and provide appropriate dose-based PARS.</i>~~ ~~<i>Coordinate Field Monitoring Team activities.</i>~~ ~~<i>Monitor meteorological conditions and remain cognizant of forecast data.</i>~~ ~~<i>Following EOF Protective Measures Group staffing:</i>~~ ~~<i>Transfer responsibility of dose assessment activities and control of the Field Monitoring Teams to the EOF Dose Assessment Coordinator when appropriate.</i>~~ ~~<i>Assist the EOF Dose Assessment Coordinator in the acquisition of information for the off-site agency updates.</i>~~	deleted and which can be reassigned.
EP-TM-1000 Part II Section B.5.a.12 Maintenance Manager TSC	12) <u>Maintenance Manager</u> TSC <i>The Maintenance Manager reports to the Station Emergency Director and directs a staff in providing labor, tools, protective equipment and parts needed for emergency repair, damage control and recovery efforts to place the plant in a safe condition or return the plant to its pre-accident status. Responsibilities include:</i> <i>Direct the total onsite maintenance and equipment restoration effort.</i> <i>Request additional equipment in order to expedite recovery and restoration.</i>	<del>712) </del><u>Maintenance Manager</u> TSC The Maintenance Manager reports to the Station Emergency Director and directs a staff in providing labor, tools, protective equipment and parts needed for emergency repair, damage control and recovery efforts to place the plant in a safe condition or return the plant to its pre-accident status. Responsibilities include: - Direct the total onsite maintenance and equipment restoration effort. - Request additional equipment in order to expedite recovery and restoration.	The revision deletes reference to the TSC Damage Control Communicator (DCC) since the DCC position has been deleted. Refer to Attachment 1, Section 5.2.5 for further discussion. Evaluation of this ERO position is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	- Supervise the activities of the OSC Director and the TSC Damage Control Communicator. - Ensure the Operations Manager is informed of OSC staffing utilization and activities. - In coordination with the Operations Manager, determine the priority assigned to OSC activities. - Ensure adequate staffing of the OSC. - Assist in rescue operations. - Identify required procedures that need to be written or implemented in support of the response efforts.	- Supervise the activities of the OSC Director ~~and the TSC Damage Control Communicator.~~ - Ensure the Operations Manager is informed of OSC staffing utilization and activities. - In coordination with the Operations Manager, determine the priority assigned to OSC activities. - Ensure adequate staffing of the OSC. - Assist in rescue operations. - Identify required procedures that need to be written or implemented in support of the response efforts. Relay requests from the Control Room and TSC for the dispatching of OSC Teams.	The revision reflects the additional responsibilities transferred to the TSC Maintenance Manager from the DCC position deleted in this LAR. The additional responsibilities are in alignment with actions already performed by the Maintenance Manager and do not represent an undue burden for the Maintenance Manager given the permanently shutdown and defueled condition and limited possible accident scenarios. The re-assignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).
EP-TM-1000 Part II Section B.5.a.14 Operations Support Center Director OSC	14) <u>Operations Support Center Director</u> OSC The OSC Director reports to the Maintenance Manager and supervises the activities of OSC personnel. Responsibilities include: - Assign tasks to designated Leads as available: - Operations - Mechanical Maintenance - Electrical/I&C Maintenance - Radiation Protection - Chemistry - Coordinate with the OSC Operations Lead in the dispatch of Operations personnel to support Control Room and OSC Team activities. - Notify the Control Room and TSC prior to dispatch of any OSC teams into the plant. - Maintain OSC resources including personnel, material, and equipment.	914) <u>Operations Support Center Director</u> OSC The OSC Director reports to the Maintenance Manager and supervises the activities of OSC personnel. Responsibilities include: - Assign tasks to ~~designated Leads~~ OSC Pooled Resources as available: ~~Operations~~ - Mechanical Maintenance - Electrical/I&C Maintenance - Radiation Protection ~~Chemistry~~ ~~Coordinate with the OSC Operations Lead in the dispatch of Operations personnel to support Control Room and OSC Team activities.~~ - Notify the Control Room and TSC prior to dispatch of any OSC teams into the plant. - Maintain OSC resources including personnel, material, and equipment.	The revision reflects the additional responsibilities transferred to the OSC Director from other ERO positions deleted in this LAR. The additional responsibilities are in alignment with actions already performed by the OSC Director and do not represent an undue burden for the OSC Director given the permanently shutdown and defueled condition and limited possible accident scenarios. Refer to Attachment 1, Section 5.2.5 for further discussion. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	- Maintain accountability for all individuals dispatched from the OSC. - Conduct periodic briefings on the overall plant status, emergency response activities, and station priorities.	- Maintain accountability for all individuals dispatched from the OSC. - Conduct periodic briefings on the overall plant status, emergency response activities, and station priorities. Form sampling teams. Organize in-plant teams to support station priorities. Ensure that in-plant team dispatch briefings include expected activities and radiological hazards.	of which responsibilities can be deleted and which can be reassigned. The re-assignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).
EP-TM-1000 Part II Section B.5.a.15 Assistant Operations Support Center Director OSC	15) <u>Assistant Operations Support Center Director OSC</u> The Assistant OSC Director reports to the OSC Director and supports the OSC Director in supervising the activities of personnel reporting to the OSC. The Assistant OSC Director may be filled by an OSC Lead, normally the Radiation Protection Lead. Responsibilities include: - Assist the OSC Director in supervising personnel assigned to the OSC. - Assist in formation of Field Monitoring Teams as directed by the TSC. - Assist in formation of sampling teams. - Ensure that records of in-plant survey information and radiochemistry results are maintained. - Ensure that accumulated exposure records for all essential onsite personnel are maintained. - Coordinate with the OSC Leads to organize in-plant teams to support station priorities. - Ensure that in-plant team dispatch briefings include expected activities and radiological hazards. - Ensure that periodic facility briefings are conducted on plant radiological conditions.	~~15) Assistant Operations Support Center Director OSC~~ ~~The Assistant OSC Director reports to the OSC Director and supports the OSC Director in supervising the activities of personnel reporting to the OSC. The Assistant OSC Director may be filled by an OSC Lead, normally the Radiation Protection Lead. Responsibilities include:~~ ~~Assist the OSC Director in supervising personnel assigned to the OSC.~~ ~~Assist in formation of Field Monitoring Teams as directed by the TSC.~~ ~~Assist in formation of sampling teams.~~ ~~Ensure that records of in-plant survey information and radiochemistry results are maintained.~~ ~~Ensure that accumulated exposure records for all essential onsite personnel are maintained.~~ ~~Coordinate with the OSC Leads to organize in-plant teams to support station priorities.~~ ~~Ensure that in-plant team dispatch briefings include expected activities and radiological hazards.~~ ~~Ensure that periodic facility briefings are conducted on plant radiological conditions.~~	The revision deletes the Assistant Operations Support Center Director position from the TMI ERO. This revision is further discussed in Attachment 1, Section 5.2.5, Evaluation of Proposed Changes. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000	16) <u>OSC Leads</u> OSC	1016) <u>OSC LeadsPooled Resources</u> OSC	The revision changes the OSC Lead positions to be pooled resources. The pooled positions

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
Part II Section B.5.a.16 OSC Leads OSC	OSC Leads report to the OSC Director and are assigned from the following station departments: - Mechanical Maintenance - Electrical / Instrument and Control - Radiation Protection - Chemistry - Operations (on-shift Supervising Operator or designated Operations representative) The OSC Lead assigned to an OSC team is responsible at all times for the safety of team personnel and to keep the OSC Director apprised of team status. Specifically, the OSC Leads are responsible for the managing and supervising OSC team personnel, including: - Conduct of adequate pre-dispatch briefings. - Ensuring adequate protective equipment and measures have been identified. - Tracking of OSC team activities while dispatched. - Debriefing of team personnel upon return to the OSC.	OSC Pooled Resources ~~Leads~~ report to the OSC Director and are assigned from the following station departments: - Mechanical Maintenance - Electrical / Instrument and Control - Radiation Protection ~~Chemistry~~ ~~Operations (on-shift Supervising Operator or designated Operations representative)~~ ~~The OSC Lead assigned to an OSC team is responsible at all times for the safety of team personnel and to keep the OSC Director apprised of team status. Specifically, the OSC Leads are responsible for the managing and supervising OSC team personnel, including:~~ ~~Conduct of adequate pre-dispatch briefings.~~ ~~Ensuring adequate protective equipment and measures have been identified.~~ ~~Tracking of OSC team activities while dispatched.~~ ~~Debriefing of team personnel upon return to the OSC.~~	will consist of Mechanical and Electrical Technicians and Radiation Protection Technicians. This revision is further discussed in Attachment 1, Section 5.2.5, Evaluation of Proposed Changes. Evaluation of these ERO position's responsibilities are performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. The re-assignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).
EP-TM-1000 Part II Section B 5.b. Corporate ERO 2. Corporate Emergency Director	2) <u>Corporate Emergency Director</u> EOF a) <i>When the Station Emergency Director has Command and Control, the ongoing responsibilities include:</i> <...> b) <i>Following assumption of Command and Control, the additional responsibilities assigned to the Corporate Emergency Director include:</i> - Assume overall Command and Control of emergency response activities and the non-delegable responsibilities for PAR determination and the notification of offsite authorities. - Ensure that Federal, state and local authorities and industry support agencies remain cognizant of the	2) <u>Corporate Emergency Director</u> EOF a) ~~When the Station Emergency Director has Command and Control, the~~The ongoing responsibilities include: <...> b) Following assumption of Command and Control, the additional responsibilities assigned to the Corporate Emergency Director include: - Assume overall Command and Control of emergency response activities and the non-delegable responsibilities for PAR determination and the notification of offsite authorities. - Ensure that Federal, state and local authorities and industry support agencies remain cognizant of the	The revision reflects the additional responsibilities transferred to the Corporate ED from the Technical Support Manager that is removed from the SEP in this LAR. The additional responsibilities are in alignment with actions already performed by the Corporate ED and do not represent an undue burden for the Corporate ED given the permanently shutdown and defueled condition and limited possible accident scenarios.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	<i>status of the emergency situation. If requested, dispatch informed individuals to offsite governmental Emergency Operation Centers (EOCs).</i> <i>Approve the technical content of Exelon Nuclear press releases prior to their being released to the media.</i>	status of the emergency situation. If requested, dispatch informed individuals to offsite governmental Emergency Operation Centers (EOCs). - Approve the technical content of Exelon Nuclear press releases prior to their being released to the media. Provide information to the State and Local Communicator for completing the state/local notification form.	Refer to Attachment 1, Section 5.2.2 for further discussion. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. The re-assignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).
EP-TM-1000 Part II Section B 5.b. Corporate ERO 3. EOF Director	3) <u>EOF Director</u> <u>EOF</u> The EOF Director reports to the Corporate Emergency Director and has the authority, management ability and technical knowledge to assist the Corporate Emergency Director in the management of Exelon Nuclear's offsite ERO. In the event that the Corporate Emergency Director becomes incapacitated, the EOF Director shall assume the responsibilities of the Corporate Emergency Director until a transfer of Command and Control can be affected either back to the station or to another qualified Corporate Emergency Director. Responsibilities include: - Direct and coordinate the activation and response efforts of the EOF staff in support of the Corporate Emergency Director. - Evaluate the need to augment the EOF staff based on events in progress. - Assess the effectiveness of ongoing EOF working relationships. - Monitor information flow within the EOF to ensure that facility activities remain coordinated.	3) ~~EOF Director~~ ~~EOF~~ ~~The EOF Director reports to the Corporate Emergency Director and has the authority, management ability and technical knowledge to assist the Corporate Emergency Director in the management of Exelon Nuclear's offsite ERO.~~ ~~In the event that the Corporate Emergency Director becomes incapacitated, the EOF Director shall assume the responsibilities of the Corporate Emergency Director until a transfer of Command and Control can be affected either back to the station or to another qualified Corporate Emergency Director. Responsibilities include:~~ ~~Direct and coordinate the activation and response efforts of the EOF staff in support of the Corporate Emergency Director.~~ ~~Evaluate the need to augment the EOF staff based on events in progress.~~ ~~Assess the effectiveness of ongoing EOF working relationships.~~ ~~Monitor information flow within the EOF to ensure that facility activities remain coordinated.~~	The EOF Director position is being made a full augmentation position not required to activate the EOF. The EOF Director will be removed from the SEP and will be managed and controlled by EIPs. This revision is further discussed in Attachment 1, Section 5.2.3, Evaluation of Proposed Changes. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	• Prepare state/local notification forms with the assistance of the EOF Radiation Protection Manager and the Technical Support Manager. • Coordinate services as necessary to support EOF operations. • Coordinate with the Administrative Coordinator for continual shift staffing requirements. • Assist in the conduct of Corporate Emergency Director duties. • Act as the designated alternate for approval of the technical content of Exelon Nuclear Press Releases and information released to the News Media. • Act as purchasing agent in support of the TSC for contract negotiation/administration.	~~• Prepare state/local notification forms with the assistance of the EOF Radiation Protection Manager and the Technical Support Manager.~~ ~~• Coordinate services as necessary to support EOF operations.~~ ~~• Coordinate with the Administrative Coordinator for continual shift staffing requirements.~~ ~~• Assist in the conduct of Corporate Emergency Director duties.~~ ~~• Act as the designated alternate for approval of the technical content of Exelon Nuclear Press Releases and information released to the News Media.~~ ~~• Act as purchasing agent in support of the TSC for contract negotiation/administration.~~	
EP-TM-1000 Part II Section B 5.b. Corporate ERO 4. Technical Support Manager	4) <u>Technical Support Manager</u> <u>EOF</u> <i>The Technical Support Manager reports to the EOF Director and directs the activities of the Technical Support Group. Responsibilities include:</i> • <i>Assist the Corporate Emergency Director in monitoring changes in event classification.</i> • <i>Assist the Corporate Emergency Director in determining plant-based PARs when necessary.</i> • <i>Provide information to the EOF Director for completing the state/local notification form.</i> • <i>Provide the Corporate Emergency Director information concerning the status of plant operations, and recommendations for mitigating the consequences of the accident.</i> • <i>Coordinate the overall Exelon Nuclear engineering support from corporate staff and unaffected stations.</i> • <i>Interface with Industry and contractor engineering support organizations.</i>	4) ~~<u>Technical Support Manager</u> <u>EOF</u>~~ ~~<i>The Technical Support Manager reports to the EOF Director and directs the activities of the Technical Support Group. Responsibilities include:</i>~~ ~~• <i>Assist the Corporate Emergency Director in monitoring changes in event classification.</i>~~ ~~• <i>Assist the Corporate Emergency Director in determining plant based PARs when necessary.</i>~~ ~~• <i>Provide information to the EOF Director for completing the state/local notification form.</i>~~ ~~• <i>Provide the Corporate Emergency Director information concerning the status of plant operations, and recommendations for mitigating the consequences of the accident.</i>~~ ~~• <i>Coordinate the overall Exelon Nuclear engineering support from corporate staff and unaffected stations.</i>~~ ~~• <i>Interface with Industry and contractor engineering support organizations.</i>~~	The Technical Support Manager position is being made a full augmentation position not required to activate the EOF. The Technical Support Manager will be removed from the SEP and will be managed and controlled by EIPs. This revision is further discussed in Attachment 1, Section 5.2.5, Evaluation of Proposed Changes. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	- Ensure that the EOF Radiation Protection Manager is informed of changes in plant status that impacts or potentially impacts the offsite environment or PARs. - Provide technical information on facility and system design. - Assist in the development of post-accident recovery measures.	~~Ensure that the EOF Radiation Protection Manager is informed of changes in plant status that impacts or potentially impacts the offsite environment or PARs.~~ ~~Provide technical information on facility and system design.~~ ~~Assist in the development of post-accident recovery measures.~~	
EP-TM-1000 Part II Section B 5.b. Corporate ERO 5. Operations Advisor	5) <u>Operations Advisor</u> <u>EOF</u> The Operations Advisor reports to the Technical Support Manager, directs the ENS Communicator, and is responsible for obtaining and analyzing plant status information and ensuring that it is disseminated. Specific responsibilities include: - Monitor the Operations Status Line to keep apprised of: - Control Room activities including progress on Emergency Operating Procedures. - Significant changes in plant system/equipment status and critical parameters. - Possible changes in event classification. - Identify and track critical parameters for the identification and trending of current plant status information. - Assist the station in identifying Operations resources from corporate staff or unaffected stations for direct support of plant shift operations personnel. - Assist the ENS Communicator in the completion of the NRC Event Notification Worksheet and in responding to NRC inquiries. - Ensure that the EOF Radiation Protection Manager is informed of changes in plant status that impact or potentially impact the offsite environment or PARs.	5) ~~Operations Advisor~~ ~~EOF~~ ~~The Operations Advisor reports to the Technical Support Manager, directs the ENS Communicator, and is responsible for obtaining and analyzing plant status information and ensuring that it is disseminated. Specific responsibilities include:~~ ~~Monitor the Operations Status Line to keep apprised of:~~ ~~Control Room activities including progress on Emergency Operating Procedures.~~ ~~Significant changes in plant system/equipment status and critical parameters.~~ ~~Possible changes in event classification.~~ ~~Identify and track critical parameters for the identification and trending of current plant status information.~~ ~~Assist the station in identifying Operations resources from corporate staff or unaffected stations for direct support of plant shift operations personnel.~~ ~~Assist the ENS Communicator in the completion of the NRC Event Notification Worksheet and in responding to NRC inquiries.~~ ~~Ensure that the EOF Radiation Protection Manager is informed of changes in plant status that impact or potentially impact the offsite environment or PARs.~~	The Operations Advisor position in the EOF is being eliminated. This position can be eliminated without impacting TMI's ability to respond to the spectrum of credible accidents and operational events for a permanently shutdown and defueled reactor. This revision is further discussed in Attachment 1, Section 5.2.5, Evaluation of Proposed Changes. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II Section B 5.b. Corporate ERO 6. ENS Communicator	6) <u>ENS Communicator</u> <u>EOF</u> <i>The ENS Communicator reports to the Operations Advisor. Specific responsibilities include:</i> • <i>Notify the NRC of changes in event classification. Generally, the TSC ENS Communicator focuses on real time plant operations and the EOF ENS Communicator focuses on notifications following changes in event classification and overall changes in event response or status.</i> • <i>Establish and maintain continuous communications with the NRC, if requested, via the NRC ENS phone or commercial telephone line.</i> • <i>Coordinate NRC communications with the ENS Communicator in the TSC.</i>	<del>6) <u>ENS Communicator</u> <u>EOF</u> <i>The ENS Communicator reports to the Operations Advisor. Specific responsibilities include:</i> • <i>Notify the NRC of changes in event classification. Generally, the TSC ENS Communicator focuses on real time plant operations and the EOF ENS Communicator focuses on notifications following changes in event classification and overall changes in event response or status.</i> • <i>Establish and maintain continuous communications with the NRC, if requested, via the NRC ENS phone or commercial telephone line.</i> • <i>Coordinate NRC communications with the ENS Communicator in the TSC.</i> </del>	The ENS Communicator has been removed from SEP and will be managed and controlled by EIPs. The TSC ENS Communicator will be responsible for NRC Communications and notifications. Refer to Attachment 1, Section 5.2.3 for further discussion. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.b. Corporate ERO 7. Technical Advisor	7) <u>Technical Advisor</u> <u>EOF</u> <i>The Technical Advisor reports to the Technical Support Manager and is responsible for obtaining and analyzing technical support information, accident mitigating activities and priorities and ensuring that it is disseminated. Responsibilities include:</i> • <i>Monitor the Technical Conference Line to remain aware of TSC technical support activities, strategies and priorities.</i> • <i>Assist the Dose Assessment Coordinator in acquiring technical information pertaining to release pathway and core damage assessment.</i> • <i>Supervise the activities of the Events Recorder.</i>	<del>7) <u>Technical Advisor</u> <u>EOF</u> <i>The Technical Advisor reports to the Technical Support Manager and is responsible for obtaining and analyzing technical support information, accident mitigating activities and priorities and ensuring that it is disseminated. Responsibilities include:</i> • <i>Monitor the Technical Conference Line to remain aware of TSC technical support activities, strategies and priorities.</i> • <i>Assist the Dose Assessment Coordinator in acquiring technical information pertaining to release pathway and core damage assessment.</i> • <i>Supervise the activities of the Events Recorder.</i> </del>	The Technical Advisor position in the EOF is being made a full augmentation position not required to activate the EOF. The Technical Advisor will be removed from the SEP and will be managed and controlled by EIPs. This revision is further discussed in Attachment 1, Section 5.2.5, Evaluation of Proposed Changes. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.b. Corporate ERO 8. Events Recorder	8) <u>Events Recorder</u> <u>EOF</u> <i>The Events Recorder reports to the Technical Advisor. Responsibilities include:</i>	~~8) <u>Events Recorder</u> <u>EOF</u> <i>The Events Recorder reports to the Technical Advisor. Responsibilities include:</i>~~	The Events Recorder position in the EOF is being made a full augmentation position not required to activate the EOF.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
Corporate ERO 8. Events Recorder	- Gather/record approved information on status boards as requested. - Maintain an event chronology/status log.	~~Gather/record approved information on status boards as requested.~~ - Maintain an event chronology/status log.	The EOF Director will be removed from the SEP and will be managed and controlled by EIPs. This revision is further discussed in Attachment 1, Section 5.2.10, Evaluation of Proposed Changes. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.b. Corporate ERO 9. Radiation Protection Manager	9) <u>Radiation Protection Manager</u> EOF The Radiation Protection Manager reports to the EOF Director and directs the activities of the EOF Radiation Protection staff. Specific responsibilities include: - Recommend changes in event classification and PARs based upon effluent releases or dose projections. - Assist the EOF Emergency Director in the evaluation of the significance of an emergency with respect to the public. - Notify the EOF Emergency Director of meteorological changes that may impact identification of downwind areas. <...> - Upon request, provide in-plant health physics data to Emergency Public Information personnel and the HPN Communicator.	29) <u>Radiation Protection Manager</u> EOF The Radiation Protection Manager reports to the EOF Director and directs the activities of the EOF Radiation Protection staff. Specific responsibilities include: - Recommend changes in event classification and PARs based upon effluent releases or dose projections. - Assist the ~~EOF Corporate Emergency~~ Director in the evaluation of the significance of an emergency with respect to the public. - Notify the ~~EOF Corporate Emergency~~ Director of meteorological changes that may impact identification of downwind areas. <...> - Upon request, provide in-plant health physics data to Emergency Public Information personnel and the HPN Communicator. - Determine needs of the Dose Assessment Coordinator for updates on Field Monitoring Team data and ensure distribution of new data to them in accordance with those needs. - Upon request, provide environmental data to Emergency Public Information personnel.	The revision recognizes the EOF Director and the Heath Physics Network Communicator (HPN) positions have been removed from the SEP. See Attachment 1, Section 5.2.4, of the LAR for further discussion. The function to assist and notify the EOF Director is being revised to assist and notify the Emergency Director. The revision reflects the additional responsibilities transferred to the EOF RPM from other positions eliminated from the SEP in this LAR. The additional responsibilities are in alignment with actions already performed by the RPM and do not represent an undue burden for the RPM given the permanently shutdown and defueled condition and limited possible accident scenarios.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
		• Evaluate and coordinate additional equipment and personnel as necessary from unaffected stations to augment and/or relieve station Field Monitoring Teams.	The re-assignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).
EP-TM-1000 Part II Section B 5.b. Corporate ERO 10. Env. Coordinator	10) <i>Environmental Coordinator</i> <i>EOF</i> <i>The Environmental Coordinator reports to the EOF Radiation Protection Manager and directs the Field Team Communicator and Field Monitoring Teams. Responsibilities include:</i> • <i>Coordinate the transfer of control of the Field Monitoring Teams if initially under the direction of the TSC Radiological Controls Coordinator.</i> • <i>Ensure communications are established with the TSC to obtain information on the accident conditions, meteorological conditions and estimates of radioactive material releases.</i> • <i>Maintain cognizance of Field Monitoring Team exposure. When warranted, ask the Dose Assessment Coordinator to initiate an evaluation of the need for administering KI to Exelon nuclear workers.</i> • <i>Determine needs of the Dose Assessment Coordinator, the Dose Assessor, and the HPN Communicator for updates on Field Monitoring Team data and ensure distribution of new data to them in accordance with those needs.</i> • <i>Upon request, provide environmental data to Emergency Public Information personnel.</i> • <i>Evaluate and coordinate additional equipment and personnel as necessary from unaffected stations to augment and/or relieve station Field Monitoring Teams.</i>	10) ~~<i>Environmental Coordinator</i>~~ ~~<i>EOF</i>~~ ~~<i>The Environmental Coordinator reports to the EOF Radiation Protection Manager and directs the Field Team Communicator and Field Monitoring Teams. Responsibilities include:</i>~~ • ~~<i>Coordinate the transfer of control of the Field Monitoring Teams if initially under the direction of the TSC Radiological Controls Coordinator.</i>~~ • ~~<i>Ensure communications are established with the TSC to obtain information on the accident conditions, meteorological conditions and estimates of radioactive material releases.</i>~~ • ~~<i>Maintain cognizance of Field Monitoring Team exposure. When warranted, ask the Dose Assessment Coordinator to initiate an evaluation of the need for administering KI to Exelon Nuclear workers.</i>~~ • ~~<i>Determine needs of the Dose Assessment Coordinator, the Dose Assessor, and the HPN Communicator for updates on Field Monitoring Team data and ensure distribution of new data to them in accordance with those needs.</i>~~ • ~~<i>Upon request, provide environmental data to Emergency Public Information personnel.</i>~~ • Evaluate and coordinate additional equipment and personnel as necessary from unaffected stations to augment and/or relieve station Field Monitoring Teams.	The EOF Environmental Coordinator position in the EOF is being made a full augmentation position not required to activate the EOF. The EOF Environmental Coordinator will be removed from the SEP and will be managed and controlled by EIPs. This revision is further discussed in Attachment 1, Section 5.2.4, Evaluation of Proposed Changes. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II Section B 5.b. Corporate ERO 11. Field Team Communicator	11) <u>Field Team Communicator</u> <u>EOF</u> <i>The Field Team Communicator reports to the Environmental Coordinator. Responsibilities include:</i> • Establish and maintain contact with the dispatched Field Monitoring Teams. • Document the Environmental Coordinator's instructions and then relay this information to the Field Monitoring Teams. • Document environmental data reported by the Field Monitoring Teams. • Periodically obtain and document information on Field Monitoring Team radiological exposure. • Promptly report new environmental or Field Monitoring Team exposure data to the Environmental Coordinator. • Document questions and answers directed to and received from the Field Monitoring Teams. Ensure the Environmental Coordinator is cognizant of these information requests and relay replies to these requests.	~~11) <u>Field Team Communicator</u> <u>EOF</u>~~ ~~<i>The Field Team Communicator reports to the Environmental Coordinator. Responsibilities include:</i>~~ ~~• Establish and maintain contact with the dispatched Field Monitoring Teams.~~ ~~• Document the Environmental Coordinator's instructions and then relay this information to the Field Monitoring Teams.~~ ~~• Document environmental data reported by the Field Monitoring Teams.~~ ~~• Periodically obtain and document information on Field Monitoring Team radiological exposure.~~ ~~• Promptly report new environmental or Field Monitoring Team exposure data to the Environmental Coordinator.~~ ~~• Document questions and answers directed to and received from the Field Monitoring Teams. Ensure the Environmental Coordinator is cognizant of these information requests and relay replies to these requests.~~	The EOF Field Team Communicator position is being made a full augmentation position not required to activate the EOF. The EOF Field Team Communicator will be removed from the SEP and will be managed and controlled by EPIPs. This revision is further discussed in Attachment 1, Section 5.2.4, Evaluation of Proposed Changes. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.b. Corporate ERO 12. Dose Assessment Coordinator	12) <u>Dose Assessment Coordinator</u> <u>EOF</u> <i>The Dose Assessment Coordinator reports to the EOF Radiation Protection Manager and directs the activities of the Dose Assessor and the HPN Communicator. Responsibilities include:</i> • Interpret radiological data and provide PARs based upon dose projections to the EOF Radiation Protection Manager. • Advise the EOF Radiation Protection Manager of changes in event classification based on effluent releases or dose projections. • Initiate evaluation of the need for administering KI to Exelon nuclear workers when requested by the Environmental Coordinator.	~~312) <u>Dose Assessment Coordinator</u> <u>EOF</u>~~ The Dose Assessment Coordinator reports to the EOF Radiation Protection Manager ~~and directs the activities of the Dose Assessor and the HPN Communicator.~~ Responsibilities include: • Interpret radiological data and provide PARs based upon dose projections to the EOF Radiation Protection Manager. • Advise the EOF Radiation Protection Manager of changes in event classification based on effluent releases or dose projections. • Initiate evaluation of the need for administering KI to Exelon nuclear workers ~~when requested by the Environmental Coordinator.~~	The revision recognizes the Dose Assessor, the Environmental Coordinator, and the Heath Physics Network Communicator (HPN) positions in the EOF have been removed from the SEP. See Attachment 1, Section 5.2.4, of the LAR for further discussion. The revision reflects the additional responsibilities transferred to the Dose Assessment Coordinator from other positions eliminated from the SEP in this LAR. The additional responsibilities are in alignment with actions already

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	• <i>Remain cognizant of forecast and meteorological data and ensure the status is updated periodically.</i> • <i>Notify the EOF Radiation Protection Manager of meteorological changes that may impact identification of downwind areas.</i> • <i>Upon request, provide release and dose assessment data to Emergency Public Information personnel, and the HPN Communicator.</i>	• Remain cognizant of forecast and meteorological data and ensure the status is updated periodically. • Notify the EOF Radiation Protection Manager of meteorological changes that may impact identification of downwind areas. • Upon request, provide release and dose assessment data to Emergency Public Information personnel, ~~and the HPN Communicator.~~ • Establish and maintain contact with the dispatched Field Monitoring Teams. • Document environmental data reported by the Field Monitoring Teams. • Ensure communications are established with the TSC to obtain information on the accident conditions, meteorological conditions and estimates of radioactive material releases. • Maintain cognizance of Field Monitoring Team exposure. When warranted, initiate an evaluation of the need for administering KI to Exelon nuclear workers. • Perform dose projections using the Dose Assessment computer models. • Monitor meteorological and plant effluent conditions. • Evaluate the need for administering KI to Exelon nuclear workers.	performed by the Dose Assessment Coordinator and do not represent an undue burden for the Dose Assessment Coordinator given the permanently shutdown and defueled condition and limited possible accident scenarios. The re-assignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II Section B 5.b. Corporate ERO 12. Dose Assessor	13) <u>Dose Assessor</u> <u>EOF</u> <i>The Dose Assessor reports to the Dose Assessment Coordinator. Responsibilities include:</i> • <i>Perform dose projections using the Dose Assessment computer models as directed by the Dose Assessment Coordinator.</i> • <i>Monitor meteorological and plant effluent conditions.</i> • <i>Notify the Dose Assessment Coordinator of meteorological changes that may impact identification of downwind areas.</i> • <i>Evaluate the need for administering KI to Exelon nuclear workers when requested by the Dose Assessment Coordinator.</i>	~~13) <u>Dose Assessor</u> <u>EOF</u>~~ ~~<i>The Dose Assessor reports to the Dose Assessment Coordinator. Responsibilities include:</i>~~ ~~• <i>Perform dose projections using the Dose Assessment computer models as directed by the Dose Assessment Coordinator.</i>~~ ~~• <i>Monitor meteorological and plant effluent conditions.</i>~~ ~~• <i>Notify the Dose Assessment Coordinator of meteorological changes that may impact identification of downwind areas.</i>~~ ~~• <i>Evaluate the need for administering KI to Exelon nuclear workers when requested by the Dose Assessment Coordinator.</i>~~	The Dose Assessor position is being made a full augmentation position not required to activate the EOF. The Dose Assessor will be removed from the SEP and will be managed and controlled by EIPs. See Attachment 1, Section 5.2.4, of the LAR for further discussion. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.b. Corporate ERO 14. HPN Communicator	14) <u>HPN Communicator</u> <u>EOF</u> <i>The HPN Communicator reports to the Environmental Coordinator. Responsibilities include:</i> • <i>Provide updates and respond to inquiries from the NRC on offsite environmental data, release status, dose projections and changes to PARs for the general public.</i> • <i>Obtain release and dose assessment data from the Dose Assessment Coordinator and Field Monitoring Team data from the Environmental Coordinator.</i> • <i>Maintain continuous communications with the NRC, if requested, via the NRC HPN phone or commercial telephone line.</i> • <i>Communicate current Health Physics information to NRC representatives, as requested.</i>	~~14) <u>HPN Communicator</u> <u>EOF</u>~~ ~~<i>The HPN Communicator reports to the Environmental Coordinator. Responsibilities include:</i>~~ ~~• <i>Provide updates and respond to inquiries from the NRC on offsite environmental data, release status, dose projections and changes to PARs for the general public.</i>~~ ~~• <i>Obtain release and dose assessment data from the Dose Assessment Coordinator and Field Monitoring Team data from the Environmental Coordinator.</i>~~ ~~• <i>Maintain continuous communications with the NRC, if requested, via the NRC HPN phone or commercial telephone line.</i>~~ • <i>Communicate current Health Physics information to NRC representatives, as requested.</i>	The HPN Communicator position is being made a full augmentation position not required to activate the EOF. The HPN Communicator will be removed from the SEP and will be managed and controlled by EIPs. See Attachment 1, Section 5.2.3, of the LAR for further discussion. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II Section B 5.b. Corporate ERO 15. Logistics Manager	15) <i>Logistics Manager</i> <i>EOF</i> <i>The Logistics Manager reports to the EOF Director and directs the activities of the administrative, security and liaison personnel. Responsibilities include:</i> <i>Ensure contact is made and communications are maintained with appropriate Non-Exelon Nuclear personnel whose assistance may be required to terminate the emergency conditions and to expedite the recovery.</i> <i>Advise the EOF Director concerning the status of activities relating to governmental interfaces.</i> <i>Obtain support from Human Resources, the Comptroller's Office, the Legal Department, Accounting Department and others as required.</i> <i>Coordinate with the Nuclear Duty Officer to maintain communications with ANI and INPO.</i> <i>Ensure that access to the EOF is limited to Emergency Responders and authorize admittance to non-Exelon personnel.</i> <i>Implement the Exelon Nuclear Fitness for Duty Program.</i> <i>Ensure that NRC Site Team Representatives are directed to the Regulatory Liaison upon arrival at the EOF.</i> <i>Ensure that updates and information are provided to the EOC Liaisons and to offsite officials present in the EOF.</i> <i>Assist in obtaining and coordinating additional equipment/materials and /or technical expertise to support station requests, including Exelon Corporate staff, unaffected stations and vendor/contractors.</i> <i>Coordinate maintenance of EOF equipment as necessary.</i> <i>Ensure shift relief and continual staffing for the EOF.</i>	~~15) <i>Logistics Manager</i> <i>EOF</i>~~ ~~<i>The Logistics Manager reports to the EOF Director and directs the activities of the administrative, security and liaison personnel. Responsibilities include:</i>~~ ~~<i>Ensure contact is made and communications are maintained with appropriate Non-Exelon Nuclear personnel whose assistance may be required to terminate the emergency conditions and to expedite the recovery.</i>~~ ~~<i>Advise the EOF Director concerning the status of activities relating to governmental interfaces.</i>~~ ~~<i>Obtain support from Human Resources, the Comptroller's Office, the Legal Department, Accounting Department and others as required.</i>~~ ~~<i>Coordinate with the Nuclear Duty Officer to maintain communications with ANI and INPO.</i>~~ ~~<i>Ensure that access to the EOF is limited to Emergency Responders and authorize admittance to non-Exelon personnel.</i>~~ ~~<i>Implement the Exelon Nuclear Fitness for Duty Program.</i>~~ ~~<i>Ensure that NRC Site Team Representatives are directed to the Regulatory Liaison upon arrival at the EOF.</i>~~ ~~<i>Ensure that updates and information are provided to the EOC Liaisons and to offsite officials present in the EOF.</i>~~ ~~<i>Assist in obtaining and coordinating additional equipment/materials and /or technical expertise to support station requests, including Exelon Corporate staff, unaffected stations and vendor/contractors.</i>~~ ~~<i>Coordinate maintenance of EOF equipment as necessary.</i>~~ ~~<i>Ensure shift relief and continual staffing for the EOF.</i>~~	The Logistics Manager position is being made a full augmentation position not required to activate the EOF. The Logistics Manager will be removed from the SEP and will be managed and controlled by EPIPs. The revision reflects deletion of INPO because INPO's oversight would not apply to a permanently shutdown facility. See Attachment 1, Section 5.2.10, of the LAR for further discussion. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II Section B 5.b. Corporate ERO 16. Administrative Coordinator	16) <u>Administrative Coordinator</u> <u>EOF</u> The Administrative Coordinator reports to the Logistics Manager. Responsibilities include: • Direct the activities of the Computer Specialist. • Direct the clerical staff and ensure the clerical requirements for the other EOF and JIC staff are met. • Obtain clerical support for the EOF and JIC. • Coordinate shift relief and continual staffing for the EOF. • Obtain services as appropriate to support operation of the EOF.	~~16) Administrative Coordinator EOF~~ ~~The Administrative Coordinator reports to the Logistics Manager. Responsibilities include:~~ ~~• Direct the activities of the Computer Specialist.~~ ~~• Direct the clerical staff and ensure the clerical requirements for the other EOF and JIC staff are met.~~ ~~• Obtain clerical support for the EOF and JIC.~~ ~~• Coordinate shift relief and continual staffing for the EOF.~~ • Obtain services as appropriate to support operation of the EOF.	The Administrative Coordinator position is a full augmentation position not required to activate the EOF. The Administrative Coordinator will be removed from the SEP and will be managed and controlled by EPIPs. See Attachment 1, Section 5.2.10, of the LAR for further discussion. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.b. Corporate ERO 17. Computer Specialist	17) <u>Computer Specialist</u> <u>EOF</u> The Computer Specialist reports to the Administrative Coordinator. Responsibilities include: • Assist any personnel in logging in, initializing or using a desired computer program. • Investigate and repair problems encountered with communications equipment and computer equipment/applications.	~~17) Computer Specialist EOF~~ The Computer Specialist reports to the ~~Administrative Coordinator~~ Corporate Emergency Director. Responsibilities include: • Assist any personnel in logging in, initializing or using a desired computer program. • Investigate and repair problems encountered with communications equipment and computer equipment/applications.	This revision recognizes the Administrative Coordinator is removed from the SEP. The Computer Specialist will report to the Corporate ED. The Computer Specialist will be a 90-minute responder and regarded as minimum staffing at the EOF, but will not be required for facility activation.
EP-TM-1000 Part II Section B 5.b. Corporate ERO 18. Security Coordinator	18) <u>Security Coordinator</u> <u>EOF</u> The Security Coordinator reports to the Logistics Manager. Responsibilities include: • Provide and interpret information on security events. • Assist with access control activities at the EOF and JIC. • Perform the following in support of the TSC Security Coordinator: • Provide assistance in resolving security events.	~~18) Security Coordinator EOF~~ ~~The Security Coordinator reports to the Logistics Manager. Responsibilities include:~~ ~~• Provide and interpret information on security events.~~ ~~• Assist with access control activities at the EOF and JIC.~~ ~~• Perform the following in support of site the TSC Security Coordinator:~~ ~~• Provide assistance in resolving security events.~~	The Security Coordinator at the EOF position is a full augmentation position not required to activate the EOF. The Security Coordinator will be removed from the SEP and will be managed and controlled by EPIPs. Evaluation of this ERO position's responsibilities is performed in Attachment 4 ERO Task

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	- Assist as a liaison for local, state and federal law enforcement agencies during security related events. - Serve as the primary contact to the security force for additional support, if necessary, during a security event. - Obtain additional resources to support access control measures needed at the EOF and JIC.	~~Assist as a liaison for local, state and federal law enforcement agencies during security related events.~~ ~~Serve as the primary contact to the security force for additional support, if necessary, during a security event.~~ ~~Obtain additional resources to support access control measures needed at the EOF and JIC.~~	Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.b. Corporate ERO 19. State/Local Communicator	19) <u>State/Local Communicator</u> <u>EOF</u> <i>The State/Local Communicator reports to the Logistics Manager. Responsibilities include:</i> - Communicate and receive information via the Nuclear Accident Reporting System (NARS) circuit or commercial telephone line with appropriate state and county agencies. - Ensure that the Logistics Manager is made aware of issues and questions raised by offsite agencies and then relay the replies to these requests.	519) <u>State/Local Communicator</u> <u>EOF</u> The State/Local Communicator reports to the ~~Logistics Manager~~ Corporate Emergency Director . Responsibilities include: - Communicate and receive information via the Nuclear Accident Reporting System (NARS) circuit or commercial telephone line with appropriate state and county agencies. - Ensure that the ~~Logistics Manager~~ Corporate Emergency Director is made aware of issues and questions raised by offsite agencies and then relay the replies to these requests. - Prepare state/local notification forms with the assistance of the Corporate Emergency Director and EOF Radiation Protection Manager.	The revision reflects the additional responsibilities transferred to the State/Local Communicator from other ERO positions deleted in this LAR. The additional responsibilities are in alignment with actions already performed by the State/Local Communicator and do not represent an undue burden for the EOF State/Local Communicator given the permanently shutdown and defueled condition and limited possible accident scenarios. See Attachment 1, Section 5.2.3, of the LAR for further discussion. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. The re-assignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).

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EP-TM-1000 Part II Section B 5.b. Corporate ERO 20. EOC Communicator	20) <u>EOC Communicator</u> <u>EOF</u> <i>The EOC Communicator reports to the Logistics Manager. Responsibilities include:</i> • Coordinate and dispatch EOC Liaisons as needed or requested. • Establish and maintain periodic contact with each location where Exelon Nuclear EOC Liaisons have been dispatched. • Ensure EOC Liaisons are provided event information and notifications. • Ensure that the Logistics Manager is made aware of issues and questions raised by offsite agencies and then relay the replies to these requests.	20) ~~EOC Communicator~~ ~~EOF~~ ~~The EOC Communicator reports to the Logistics Manager. Responsibilities include:~~ ~~• Coordinate and dispatch EOC Liaisons as needed or requested.~~ ~~• Establish and maintain periodic contact with each location where Exelon Nuclear EOC Liaisons have been dispatched.~~ ~~• Ensure EOC Liaisons are provided event information and notifications.~~ ~~• Ensure that the Logistics Manager is made aware of issues and questions raised by offsite agencies and then relay the replies to these requests.~~	The EOC Communicator at the EOF position is a full augmentation position not required to activate the EOF. The EOC Communicator will be removed from the SEP and will be managed and controlled by EIPs. See Attachment 1, Section 5.2.3, of the LAR for further discussion. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.b. Corporate ERO 21. County EOC Liaison(s)	21) <u>County EOC Liaison(s)</u> <u>County EOCs</u> <i>The County EOC Liaison(s) will be dispatched to County Emergency Operations Centers (EOCs) based on established agreements with the counties. The County EOC Liaisons use the EOC Communicator as their contact at the EOF. Responsibilities include:</i> • Monitor and report County EOC activities to the EOF. • Conduct briefings and answer questions. • Provide simplified explanations to EOC personnel of technical details distributed through approved channels. • Assist with confirmation/verification of information distributed through approved channels. • Provide media at the EOC with approved Exelon Nuclear press releases. • Assist Emergency Public Information personnel in rumor control and media monitoring.	21) ~~County EOC Liaison(s)~~ ~~County EOCs~~ ~~The County EOC Liaison(s) will be dispatched to County Emergency Operations Centers (EOCs) based on established agreements with the counties. The County EOC Liaisons use the EOC Communicator as their contact at the EOF. Responsibilities include:~~ ~~• Monitor and report County EOC activities to the EOF.~~ ~~• Conduct briefings and answer questions.~~ ~~• Provide simplified explanations to EOC personnel of technical details distributed through approved channels.~~ ~~• Assist with confirmation/verification of information distributed through approved channels.~~ ~~• Provide media at the EOC with approved Exelon Nuclear press releases.~~ ~~• Assist Emergency Public Information personnel in rumor control and media monitoring.~~	The County EOC Liaison at the EOF position is a full augmentation position not required to activate the EOF. The County EOC Liaison will be removed from the SEP and will be managed and controlled by EIPs. See Attachment 1, Section 5.2.3, of the LAR for further discussion. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.

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EP-TM-1000 Part II Section B 5.b. Corporate ERO 22. State EOC Liaison(s)	22) <u>State EOC Liaison</u> <u>State EOC</u> <i>At the request of state officials and/or at the discretion of the Corporate Emergency Director, Exelon Nuclear will provide Liaison personnel to state Emergency Operation Center (EOC). The state EOC Liaisons use the EOC Communicator as the contact at the EOF. Responsibilities include:</i> • Monitor and report state EOC activities to the EOF. • Conduct briefings and answer questions as requested. • Assist Emergency Public Information personnel in rumor control and media monitoring.	~~22) <u>State EOC Liaison</u> <u>State EOC</u>~~ ~~<i>At the request of state officials and/or at the discretion of the Corporate Emergency Director, Exelon Nuclear will provide Liaison personnel to state Emergency Operation Center (EOC). The state EOC Liaisons use the EOC Communicator as the contact at the EOF. Responsibilities include:</i>~~ ~~• Monitor and report state EOC activities to the EOF.~~ ~~• Conduct briefings and answer questions as requested.~~ ~~• Assist Emergency Public Information personnel in rumor control and media monitoring.~~	The State EOC Liaison at the EOF position is a full augmentation position not required to activate the EOF. The State EOC Liaison will be removed from the SEP and will be managed and controlled by EIPs. See Attachment 1, Section 5.2.3, of the LAR for further discussion. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.b. Corporate ERO 23. Regulatory Liaison	23) <u>Regulatory Liaison</u> <u>EOF</u> <i>The Regulatory Liaison reports to the Logistics Manager. Responsibilities include:</i> • Coordinate interfaces between Exelon Nuclear personnel and governmental agencies within the EOF. • Obtain necessary equipment and supplies to support activities of governmental agencies located in the EOF. • Act as the Exelon Nuclear Liaison to the NRC Site Team representatives.	~~23) <u>Regulatory Liaison</u> <u>EOF</u>~~ ~~<i>The Regulatory Liaison reports to the Logistics Manager. Responsibilities include:</i>~~ ~~• Coordinate interfaces between Exelon Nuclear personnel and governmental agencies within the EOF.~~ ~~• Obtain necessary equipment and supplies to support activities of governmental agencies located in the EOF.~~ • ~~Act as the Exelon Nuclear Liaison to the NRC Site Team representatives.~~	The Regulatory Liaison at the EOF position is a full augmentation position not required to activate the EOF. The Regulatory Liaison will be removed from the SEP and will be managed and controlled by EIPs. See Attachment 1, Section 5.2.3, of the LAR for further discussion. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.c.	1) <u>Corporate Spokesperson</u> <u>JIC</u> <i>The Corporate Spokesperson reports to the Corporate Emergency Director and is responsible for directing the</i>	1) <u>Corporate Spokesperson</u> <u>JIC</u> The Corporate Spokesperson reports to the Corporate Emergency Director and is responsible for directing the	The revision reflects the additional responsibilities transferred to the Corporate Spokesperson from other ERO

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
Public Information ERO 1. Corporate Spokesperson	<i>Exelon Emergency Public Information Organization and providing news information to the media. Responsibilities include:</i> <i>Maintain command and control of the Joint Information Center.</i> <i>Coordinate with Federal, state and local agencies, as well as with other organizations involved in the emergency response, to maintain factual consistency of information to be conveyed to the news media/public.</i> <i>Conduct periodic briefings with the news media.</i> <i>Interface with the Public Information Director.</i> <i>Coordinate and direct responses to media inquiries.</i> <i>Ensure that the composition and timeliness of Exelon News Releases are adequate.</i> <i>Provide for timely exchange of information between other spokespersons.</i>	Exelon Emergency Public Information Organization and providing news information to the media. Responsibilities include: - Maintain command and control of the Joint Information Center. - Coordinate with Federal, state and local agencies, as well as with other organizations involved in the emergency response, to maintain factual consistency of information to be conveyed to the news media/public. - Conduct periodic briefings with the news media. - Interface with the Public Information Director. - Coordinate and direct responses to media inquiries. - Ensure that the composition and timeliness of Exelon News Releases are adequate. - Provide for timely exchange of information between other spokespersons. Provide a follow-up explanation that corrects misinformation as soon as practicable. Prepare briefing papers which contain additional detail and background not found in the news releases.	positions removed from the SEP in this LAR. The additional responsibilities are in alignment with actions already performed by the Corporate Spokesperson and do not represent an undue burden for the Corporate Spokesperson given the permanently shutdown and defueled condition and limited possible accident scenarios. See Attachment 1, Section 5.2.11, of the LAR for further discussion. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. The re-assignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).
EP-TM-1000 Part II Section B 5.c. Public Information ERO 2. Technical Spokesperson	2) <u>Technical Spokesperson</u> <u>JIC</u> <i>The Technical Spokesperson reports to the Corporate Spokesperson. Responsibilities include:</i> <i>Assist in development of technical and plant status information for use in news releases and media briefings.</i> <i>Assist the Events Recorder in the preparation of a chronological event description log.</i>	2) ~~Technical Spokesperson~~ ~~JIC~~ ~~The Technical Spokesperson reports to the Corporate Spokesperson. Responsibilities include:~~ ~~Assist in development of technical and plant status information for use in news releases and media briefings.~~ ~~Assist the Events Recorder in the preparation of a chronological event description log.~~	The Technical Spokesperson at the EOF position is a full augmentation position not required to activate the EOF. The Technical Spokesperson will be removed from the SEP and will be managed and controlled by EPIPs. See Attachment 1, Section 5.2.11, of the LAR for further discussion.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	• Prepare briefing papers which contain additional detail and background not found in the news releases. • Provide answers as soon as possible to media questions. • Provide a follow-up explanation that corrects misinformation as soon as practicable.	• ~~Prepare briefing papers which contain additional detail and background not found in the news releases.~~ • ~~Provide answers as soon as possible to media questions.~~ • ~~Provide a follow-up explanation that corrects misinformation as soon as practicable.~~	Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.c. Public Information ERO 3. Radiation Protection Spokesperson	3) <u>Radiation Protection Spokesperson</u> <u>JIC</u> <i>The Radiation Protection Spokesperson reports to the Corporate Spokesperson. Responsibilities include:</i> • Assist in development of environmental and health physics information for use in news releases and media briefings. • Assist the Events Recorder in the preparation of a chronological event description log. • Prepare briefing papers which contain additional detail and background not found in the news releases. • Provide answers as soon as possible to media questions. • Provide a follow-up explanation that corrects misinformation as soon as practicable.	3) ~~<u>Radiation Protection Spokesperson</u> <u>JIC</u>~~ ~~<i>The Radiation Protection Spokesperson reports to the Corporate Spokesperson. Responsibilities include:</i>~~ • ~~Assist in development of environmental and health physics information for use in news releases and media briefings.~~ • ~~Assist the Events Recorder in the preparation of a chronological event description log.~~ • ~~Prepare briefing papers which contain additional detail and background not found in the news releases.~~ • ~~Provide answers as soon as possible to media questions.~~ • ~~Provide a follow-up explanation that corrects misinformation as soon as practicable.~~	The Radiation Protection Spokesperson at the EOF position is a full augmentation position not required to activate the EOF. The Radiation Protection Spokesperson will be removed from the SEP and will be managed and controlled by EIPs. This revision is further discussed in Attachment 1 Evaluation of Proposed Changes, Section 5.2.11. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.c. Public Information ERO 4. JIC Director	4) <u>JIC Director</u> <u>JIC</u> <i>The JIC Director reports the Corporate Spokesperson to ensure the operability of and to supervise the activities in the JIC. Responsibilities include:</i> • Maintain cognizance of conditions of the plant and environment, and the actions of Exelon Nuclear and governmental support personnel. • Coordinate with Federal, state and local agencies, as well as with other organizations involved in the emergency response, to maintain	24) <u>JIC Director</u> <u>JIC</u> The JIC Director reports the Corporate Spokesperson to ensure the operability of and to supervise the activities in the JIC. Responsibilities include: • Maintain cognizance of conditions of the plant and environment, and the actions of Exelon Nuclear and governmental support personnel. • Coordinate with Federal, state and local agencies, as well as with other organizations involved in the emergency response, to maintain factual	The revision reflects the additional responsibilities transferred to the JIC Director from other ERO positions removed from the SEP in this LAR. The additional responsibilities are in alignment with actions already performed by the JIC Director and do not represent an undue burden for the JIC Director given the

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	<i>factual consistency of information to be conveyed to the news media/public.</i> • <i>Participate, as needed, in rumor control activities.</i> • <i>Ensure that adequate information flow between the EOF and the JIC is coordinated through the Public Information Director.</i> • <i>Authorize admittance of non-Exelon Nuclear officials to the JIC.</i>	consistency of information to be conveyed to the news media/public. • Participate, as needed, in rumor control activities. • Ensure that adequate information flow between the EOF and the JIC is coordinated through the Public Information Director. • Authorize admittance of non-Exelon Nuclear officials to the JIC. • Provide the drafted news releases to the Corporate Emergency Director for technical review prior to Public Information Director approval.	permanently shutdown and defueled condition and limited possible accident scenarios. This revision is further discussed in Attachment 1 Evaluation of Proposed Changes, Section 5.2.11. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. The re-assignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).
EP-TM-1000 Part II Section B 5.c. Public Information ERO 5. JIC Coordinator	5) <u>JIC Coordinator</u> <u>JIC</u> <i>The JIC Coordinator reports to the JIC Director and supervises the facilities support staff. Responsibilities include:</i> • <i>Ensure the JIC is activated and operational. This includes the availability of communications and visual aids.</i> • <i>Ensure that access to the JIC areas occupied by Exelon personnel is controlled.</i> • <i>Establish a minimum frequency for addressing news media/public representatives and ensure that</i>	5) ~~JIC Coordinator~~ ~~JIC~~ ~~The JIC Coordinator reports to the JIC Director and supervises the facilities support staff. Responsibilities include:~~ ~~• Ensure the JIC is activated and operational. This includes the availability of communications and visual aids.~~ ~~• Ensure that access to the JIC areas occupied by Exelon personnel is controlled.~~ ~~• Establish a minimum frequency for addressing news media/public representatives and ensure that some~~	The JIC Coordinator at the EOF position is a full augmentation position not required to activate the EOF. The JIC Coordinator will be removed from the SEP and will be managed and controlled by EPIPs. This revision is further discussed in Attachment 1 Evaluation of Proposed Changes, Section 5.2.11. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	some form of communication occurs within that time frame (i.e., an update at least hourly.) • Ensure that approved News Releases and Chronological Event Description Logs are made available in the JIC. • Document unanswered questions and serious public misinformation issues. Follow-up on these questions and issues to ensure that they are being adequately addressed. • Coordinate the interface between Exelon Nuclear and the news media/public, including, as necessary, briefings, news conferences, interviews and responses to information requests.	~~form of communication occurs within that time frame (i.e., an update at least hourly.)~~ ~~• Ensure that approved News Releases and Chronological Event Description Logs are made available in the JIC.~~ ~~• Document unanswered questions and serious public misinformation issues. Follow-up on these questions and issues to ensure that they are being adequately addressed.~~ ~~• Coordinate the interface between Exelon Nuclear and the news media/public, including, as necessary, briefings, news conferences, interviews and responses to information requests.~~	
EP-TM-1000 Part II Section B 5.c. Public Information ERO 6. Administrative Coordinator	6) <u>Administrative Coordinator</u> <u>JIC</u> <i>The Administrative Coordinator reports to the JIC Director. Responsibilities include:</i> • Coordinate with the EOF Administrative Coordinator to ensure the clerical requirements for the other JIC staff are met. • Coordinate shift relief and continual staffing for the JIC. • Obtain services as appropriate to support operation of the JIC.	~~6) <u>Administrative Coordinator</u> <u>JIC</u>~~ ~~<i>The Administrative Coordinator reports to the JIC Director. Responsibilities include:</i>~~ ~~• Coordinate with the EOF Administrative Coordinator to ensure the clerical requirements for the other JIC staff are met.~~ ~~• Coordinate shift relief and continual staffing for the JIC.~~ ~~• Obtain services as appropriate to support operation of the JIC.~~	The Administrative Coordinator at the EOF position is a full augmentation position not required to activate the EOF. The Administrative Coordinator will be removed from the SEP and will be managed and controlled by EIPs. This revision is further discussed in Attachment 1 Evaluation of Proposed Changes, Section 5.2.11. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.c. Public Information ERO	7) <u>Access Controller</u> <u>JIC</u> <i>The Access Controller reports to the JIC Director and is responsible for controlling facility access and obtaining authorization prior to admitting non-Exelon Nuclear officials into the JIC.</i>	~~7) <u>Access Controller</u> <u>JIC</u>~~ ~~<i>The Access Controller reports to the JIC Director and is responsible for controlling facility access and obtaining authorization prior to admitting non-Exelon Nuclear officials into the JIC.</i>~~	The Access Controller at the EOF position is a full augmentation position not required to activate the EOF. The Access Controller will be removed from the SEP

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
7. Access Controller			and will be managed and controlled by EPIPs. This revision is further discussed in Attachment 1 Evaluation of Proposed Changes, Section 5.2.11. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.c. Public Information ERO 8. Public Information Director	8) <u>Public Information Director (PID)</u> <u>JIC</u> <i>When the Emergency Public Information Organization is activated, the Public Information Director reports to the Corporate Spokesperson and is responsible for all emergency event related information intended to be conveyed from Exelon Nuclear to the news media/public. The Public Information Director supervises the activities of the News Writer, Events Recorder and media monitoring and rumor control personnel. Responsibilities include:</i> <i>Provide the Corporate Emergency Director with an overview of the public and media impacts resulting from the Exelon Nuclear and governmental activities.</i> <i>Participate with the Corporate Emergency Director regarding information to be released to the public.</i> <i>Authorize the issuance of news releases.</i> <i>Interface with the Corporate Spokesperson at the JIC.</i> <i>Act as a liaison between the ERO and Exelon Nuclear's corporate executives.</i>	39) <u>Public Information Director (PID)</u> <u>JIC</u> When the Emergency Public Information Organization is activated, the Public Information Director reports to the Corporate Spokesperson and is responsible for all emergency event related information intended to be conveyed from Exelon Nuclear to the news media/public. The Public Information Director may perform this function at remote locations. ~~The Public Information Director supervises the activities of the News Writer, Events Recorder and media monitoring and rumor control personnel.~~ Responsibilities include: - Provide the Corporate Emergency Director with an overview of the public and media impacts resulting from the Exelon Nuclear and governmental activities. - Participate with the Corporate Emergency Director regarding information to be released to the public. - Authorize the issuance of news releases. - Interface with the Corporate Spokesperson at the JIC. - Act as a liaison between the ERO and Exelon Nuclear's corporate executives.	This revision reflects that the Events Recorder, News Writer, Media Monitoring and Rumor Control position has been removed from the SEP for the JIC. This revision is further discussed in Attachment 1 Evaluation of Proposed Changes, Section 5.2.11. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. The re-assignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	- Maintain cognizance of conditions of the plant and environment, and the actions of Exelon Nuclear and governmental support personnel. - Coordinate information flow between the EOF and the JIC. - Coordinate with the Media Monitoring Staff to review and access media coverage of the emergency event.	- Maintain cognizance of conditions of the plant and environment, and the actions of Exelon Nuclear and governmental support personnel. - Coordinate information flow between the EOF and the JIC. ~~Coordinate with the Media Monitoring Staff to~~ Review and access media coverage of the emergency event. - Compose draft news releases with assistance from the JIC Director. - Ensure that the media is being monitored and that Exelon Nuclear personnel review the information detailed or contained in media releases. - Ensure that rumors are reviewed, documented and responded to by Exelon Nuclear personnel as deemed appropriate. - Until the JIC is fully activated, document and respond to rumors as quickly as possible, through the Exelon Communications and Public Affairs.	
EP-TM-1000 Part II Section B 5.c. Public Information ERO 9. News Writer	9) <u>News Writer</u> <u>JIC</u> <i>The News Writer reports to the Public Information Director. Responsibilities include:</i> - Compose draft news releases with assistance from the Technical Spokesperson and the Radiation Protection Spokesperson. - Provide the drafted news releases to the Corporate Emergency Director for technical review prior to Public Information Director approval.	9) ~~News Writer~~ ~~JIC~~ ~~The News Writer reports to the Public Information Director. Responsibilities include:~~ ~~Compose draft news releases with assistance from the Technical Spokesperson and the Radiation Protection Spokesperson.~~ ~~Provide the drafted news releases to the Corporate Emergency Director for technical review prior to Public Information Director approval.~~	The News Writer at the EOF position is a full augmentation position not required to activate the EOF. The News Writer will be removed from the SEP and will be managed and controlled by EIPs. This revision is further discussed in Attachment 1 Evaluation of Proposed Changes, Section 5.2.11. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
			deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.c. Public Information ERO 10. Events Recorder	<u>10) Events Recorder JIC</u> <i>The Events Recorder reports to the Public Information Director. Responsibilities include:</i> * <i>Develop a chronological event description log.</i>	~~10) Events Recorder JIC~~ ~~<i>The Events Recorder reports to the Public Information Director. Responsibilities include:</i>~~ ~~* <i>Develop a chronological event description log.</i>~~	The Events Recorder at the EOF position is a full augmentation position not required to activate the EOF. The Events Recorder will be removed from the SEP and will be managed and controlled by EIPs. This revision is further discussed in Attachment 1 Evaluation of Proposed Changes, Section 5.2.11. The revision deletes the JIC Events Recorder position. The JIC Events Recorder position is being deleted from the JIC ERO. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.c. Public Information ERO 11. Media Monitoring Staff	<u>11) Media Monitoring Staff JIC</u> <i>The Media Monitor reports to the Public Information Director. Responsibilities include:</i> • <i>Ensure that the media is being monitored and that Exelon Nuclear personnel review the information detailed or contained in media releases.</i> • <i>Inform the Public Information Director of all media reports and of actions taken to correct any misinformation or rumors.</i>	~~11) Media Monitoring Staff JIC~~ ~~<i>The Media Monitor reports to the Public Information Director. Responsibilities include:</i>~~ ~~• <i>Ensure that the media is being monitored and that Exelon Nuclear personnel review the information detailed or contained in media releases.</i>~~ ~~• <i>Inform the Public Information Director of all media reports and of actions taken to correct any misinformation or rumors.</i>~~	The Media Monitoring Staff at the EOF position is a full augmentation position not required to activate the EOF. The Media Monitoring Staff will be removed from the SEP and will be managed and controlled by EIPs. This revision is further discussed in Attachment 1 Evaluation of Proposed Changes, Section 5.2.11.

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	Direct the activities of the Rumor Control Staff with respect to the function of monitoring rumors from sources other than the media.	~~Direct the activities of the Rumor Control Staff with respect to the function of monitoring rumors from sources other than the media.~~	Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Section B 5.c. Public Information ERO 12. Rumor Control Staff	12) <u>Rumor Control Staff</u> <u>JIC</u> The Rumor Control Staff reports to the Public Information Director and acts in support of the Media Monitors. Responsibilities include: - Ensure that rumors are reviewed, documented and responded to by Exelon Nuclear personnel as deemed appropriate. - Until the JIC is fully activated, document and respond to rumors as quickly as possible, through the Exelon Communications and Public Affairs. - Inform the Media Monitors when rumors representing serious misinformation are encountered.	12) ~~Rumor Control Staff~~ ~~JIC~~ ~~The Rumor Control Staff reports to the Public Information Director and acts in support of the Media Monitors. Responsibilities include:~~ ~~Ensure that rumors are reviewed, documented and responded to by Exelon Nuclear personnel as deemed appropriate.~~ ~~Until the JIC is fully activated, document and respond to rumors as quickly as possible, through the Exelon Communications and Public Affairs.~~ ~~Inform the Media Monitors when rumors representing serious misinformation are encountered.~~	The Rumor Control Staff at the EOF position is a full augmentation position not required to activate the EOF. The Rumor Control Staff will be removed from the SEP and will be managed and controlled by EIPs. This revision is further discussed in Attachment 1 Evaluation of Proposed Changes, Section 5.2.11. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned.
EP-TM-1000 Part II Step B.6	6. Three Mile Island Emergency Response Organization Block Diagram ERO staffing tables contained within the Emergency Plan, list the key positions of the ERO and the supporting positions assigned to interface with federal, state, and county authorities. Figures B-1a through B-1d illustrate the overall emergency response organization. Table TMI B-1 specifies the required staffing levels. Section B.5 discusses specific responsibilities and the interrelationships for key positions.	6. Three Mile Island Emergency Response Organization Block Diagram ERO staffing tables contained within the Emergency Plan, list the key positions of the ERO ~~and the supporting positions assigned to interface with federal, state, and county authorities~~. Figures B-1a through B-1d illustrate the overall emergency response organization. Table TMI B-1 specifies the required staffing levels. Section B.5 discusses specific responsibilities and the interrelationships for key positions.	This step is revised to reflect that the Regulatory Liaison, State EOC Liaison positions at the EOF position are full augmentation positions and will be removed from the SEP and managed and controlled by EIPs.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II Step B.7	7. Exelon Corporate Emergency Response Organization <i>The Corporate Emergency Response Organization is staffed by Exelon personnel, and operates out of the Emergency Operations Facility (EOF) and the Joint Information Center (JIC). The Corporate ERO is supported by News Media Spokespersons, environmental assessment staff and monitoring teams that provide long term support to the affected station. Additionally, the Corporate ERO has long term liaison responsibilities with federal, state, and local authorities.</i> <i>The Emergency News Center (ENC) function is responsible for the collection and analysis of event information and status, and development of Company news statements. This information is then communicated to the JIC Spokespersons. The ENC function may be located at either the EOF or the JIC.</i> <i>The Corporate ERO is activated at an Alert. The EOF Organization is responsible for evaluating, coordinating and directing the overall company activities involved in the emergency response. Within the EOF, the Corporate Emergency Director shall assume Command and Control from the Station Emergency Director when classification escalates to an Alert or higher, unless the EOF capabilities are limited such that the overall control and responsibility for PARs and offsite notifications cannot be assumed. The EOF may also function in a supporting role to the station when the Station Emergency Director maintains Command and Control.</i>	7. Exelon Corporate Emergency Response Organization The Corporate Emergency Response Organization is staffed by Exelon personnel, and operates out of the Emergency Operations Facility (EOF) and the Joint Information Center (JIC). The Corporate ERO is supported by News Media Spokespersons, environmental assessment staff and monitoring teams that provide long term support to the affected station. Additionally, the Corporate ERO has long term liaison responsibilities with federal, state, and local authorities. These positions are further described in the EIPs. The Emergency News Center (ENC) function is responsible for the collection and analysis of event information and status, and development of Company news statements. This information is then communicated to the JIC Corporate Spokespersons. The ENC function may be located at either the EOF or the JIC. The ~~Corporate ERO~~ EOF is activated at an Alert. The EOF Organization is responsible for evaluating, coordinating and directing the overall company activities involved in the emergency response. Within the EOF, the Corporate Emergency Director shall assume Command and Control from the ~~Station—Shift~~ Emergency Director when classification escalates to an Alert or higher, unless the EOF capabilities are limited such that the overall control and responsibility for PARs and offsite notifications cannot be assumed. The JIC is activated within 90 minutes of an Alert. Some JIC functions may continue to be performed by the Exelon Communications organization until transferred to the JIC. The EOF may also function in a supporting role to the station when the Station Emergency Director maintains Command and Control.	This step recognizes that the Corporate ERO positions specified at the EOF and JIC are full augmentation positions and will be removed from the SEP and managed and controlled by EIPs. The Corporate Spokesperson remains a Minimum Staffed position and is the single point contact to interface with Federal, State and local authorities. The proposed change will require that this position respond within 90-minutes of an Alert or higher emergency classification. The activation of the JIC at the alert classification allows for the organization to be staffed at an earlier classification level than recommended by industry guidance. The Exelon Communications Department will provide for the media interface tasks upon initial declaration until the JIC is activated and turnover of responsibility occurs. The 90-minute activation time provides for a larger population of candidates to fill the JIC minimum staff positions.
EP-TM-1000 Part II Step B.8	a. <u>Institute of Nuclear Power Operations (INPO):</u> Experience has shown that a utility may need resources beyond in-house capabilities for the recovery from a nuclear plant emergency. One of the roles of the Institute of Nuclear Power Operations (INPO) is to assist affected utilities by quickly applying the resources of the nuclear industry to meet the needs of an emergency. INPO has an emergency response plan	a. ~~INstitute of Nuclear Power Operations (INPO):~~ Experience has shown that a utility may need resources beyond in-house capabilities for the recovery from a nuclear plant emergency. One of the roles of the ~~Institute of Nuclear Power Operations (INPO)~~ is to assist affected utilities by quickly applying the resources of the nuclear industry to meet the needs of an emergency. INPO has	The revision reflects deletion of INPO because INPO's oversight would not apply to a permanently shutdown facility.

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	that enables it to provide the following emergency support functions: • Assistance to the affected utility in locating sources of emergency personnel, equipment and operational analysis. • INPO, Electric Power Research Institute (EPRI) and Nuclear Energy Institute (NEI) maintain a coordination agreement on emergency information with their member utilities. • INPO provides the "Nuclear Network", or its replacement, electronic communications system to its members, participants, NEI, and EPRI to coordinate the flow of media and technical information about the emergency. • Exelon Nuclear may obtain utility industry information and assistance from any party to this agreement through the coordination of INPO. To support these functions, INPO maintains the following emergency support capabilities: • A dedicated emergency call number. • Designated INPO representative(s) who can be quickly dispatched to the utility emergency response organization to coordinate INPO support activities and information flow. • The 24-hour per day operation of an Emergency Response Center at INPO headquarters. Exelon Nuclear will notify INPO (via the designated emergency call number) for all situations involving an Alert, Site Area Emergency, or General Emergency declaration per the Exelon Nuclear Reportability Manual. INPO has coordinated the preparation of a Voluntary Assistance Agreement for Transportation Accidents. Exelon Nuclear has signed this agreement which establishes the rights and responsibilities of electric utilities in requesting or providing assistance for response to a nuclear materials Transportation Accident.	~~an emergency response plan that enables it to provide the following emergency support functions:~~ ~~• Assistance to the affected utility in locating sources of emergency personnel, equipment and operational analysis.~~ ~~• INPO, Electric Power Research Institute (EPRI) and Nuclear Energy Institute (NEI) maintain a coordination agreement on emergency information with their member utilities.~~ ~~• INPO provides the "Nuclear Network", or its replacement, electronic communications system to its members, participants, NEI, and EPRI to coordinate the flow of media and technical information about the emergency.~~ ~~• Exelon Nuclear may obtain utility industry information and assistance from any party to this agreement through the coordination of INPO.~~ ~~To support these functions, INPO maintains the following emergency support capabilities:~~ ~~• A dedicated emergency call number.~~ ~~• Designated INPO representative(s) who can be quickly dispatched to the utility emergency response organization to coordinate INPO support activities and information flow.~~ ~~• The 24 hour per day operation of an Emergency Response Center at INPO headquarters.~~ ~~Exelon Nuclear will notify INPO (via the designated emergency call number) for all situations involving an Alert, Site Area Emergency, or General Emergency declaration per the Exelon Nuclear Reportability Manual.~~ ~~INPO has coordinated the preparation of a Voluntary Assistance Agreement for Transportation Accidents. Exelon Nuclear has signed this agreement which establishes the rights and responsibilities of electric utilities in requesting or providing assistance for response to a nuclear materials Transportation Accident.~~	

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EP-TM-1000, Part II, Table TMI B-1: Minimum Staffing Requirements for TMI Station

The following tables identify the changes made to Table TMI B-1. The table format is revised to more clearly present the changes within the Table.

	Functional Area	Major Tasks	Emergency Positions	Minimum Shift Size	Minimum Staffing (a)60 Minute Augmentation
Current Wording EP-TM-1000, Part II Table TMI B-1,	1. Plant Operations/Safe Shutdown and Assessment of Operational Aspects	Control Room Staff	Shift Manager Control Room Supervisor Control Room Operator Auxiliary Operator	1 1 2 2	
Proposed Wording EP-TM-1000, Part II Table TMI B-1,	1. Plant Operations/Safe Shutdown and Assessment of Operational Aspects	Control Room Staff	Shift Manager (Certified Fuel Handler) ~~Control Room Shift Supervisor (CFH)~~ ~~Control Room Non-Certified Operator~~ ~~Auxiliary Operator~~	1 1 1 2	
Reason for Change - Changes to Table B-1 reflect the changes to the TMI ERO discussed in this Attachment. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. This revision is further discussed in Attachment 1, Section 5.2.1, Evaluation of Proposed Changes. The reassignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).					

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EP-TM-1000, Part II Table TMI B-1

	Functional Area	Major Tasks	Emergency Positions	Minimum Shift Size	Minimum Staffing (a)60 Minute Augmentation	Full Augmentation
Current Wording EP-TM-1000, Part II Table TMI B-1,	3. Notification & Communication	Emergency Communications Plant Status In-Plant Team Control Technical Activities Governmental	Plant Shift Personnel (CR) TSC Director (TSC) EOF Director (EOF) State/Local Communicator ENS Communicator HPN Communicator Operations Communicator (CR/TSC) Damage Control Comm.(CR/TSC/OSC) Technical Communicator (TSC) EOC Communicator (EOF) State EOC Liaison ^(d) (PEMA) Regulatory Liaison (EOF)	1	1 1 1 (EOF) 1 (TSC) 1 (EOF)	1 (TSC) 1 (EOF) 1 (TSC) 2 3 1 1 1 1
Proposed Wording EP-TM-1000, Part II Table TMI B-1,	3. Notification & Communication	Emergency Communications Plant Status ^(m) In-Plant Team Control ^(m) Technical Activities ^(m) Governmental ^(l)	Plant Shift Personnel (CR) ~~TSC Director (TSC)~~ ~~EOF Director (EOF)~~ State/Local Communicator ENS Communicator ~~HPN Communicator~~ ~~Operations Communicator (CR/TSC)~~ ~~Damage Control Comm.(CR/TSC/OSC)~~ ~~Technical Communicator (TSC)~~ ~~EOC Communicator (EOF)~~ ~~State EOC Liaison^(d) (PEMA)~~ ~~Regulatory Liaison (EOF)~~	1	~~1~~ ~~1~~ 1 (EOF) 1 (TSC) ~~1 (EOF)~~	~~1 (TSC)~~ ~~1 (EOF)~~ ~~1 (TSC)~~ 2 3 ~~1~~ ~~1~~ ~~1(b)~~ ~~1~~
Reason for Change - Changes to Table B-1 reflect the changes to the TMI ERO discussed in this Attachment. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. This revision is further discussed in Attachment 1, Section 5.2.3, Evaluation of Proposed Changes. The reassignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments). The specified EOF positions are being removed from the SEP and managed and controlled by EIPs.						

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

EP-TM-1000, Part II Table TMI B-1

	Functional Area	Major Tasks	Emergency Positions	Minimum Shift Size	Minimum Staffing (a)60 Minute Augmentation	Min Staff 90 Min Aug	Full Augmentation	
Current Wording EP-TM-1000, Part II Table TMI B-1,	4. Radiological Assessment	Offsite Dose Assessment	RP Personnel	1	1		1	
			Dose Assessment Coordinator (EOF)					1
			Dose Assessor (EOF)					
		Offsite Surveys	Radiation Controls Coordinator (TSC)	1	1			
			Environmental Coordinator (EOF)					
			Field Team Communicator (EOF)					
		Onsite Surveys	Field Team Personnel ^(h)	4	(c)			
			Field Team Personnel ^(h)					
		In-plant Surveys	RP Technicians or equivalent	1	(c)			
		Chemistry	Chemistry Personnel	1	(c)			
RP Supervisory	Radiation Protection Manager (TSC)	1	1					
	Radiation Protection Manager (EOF)							
Proposed Wording EP-TM-1000, Part II Table TMI B-1,	4. Radiological Assessment	Offsite Dose Assessment	~~RP Plant~~ Personnel	1 ^(b)	1		±	
			Dose Assessment Coordinator (EOF)					±
			~~Dose Assessor (EOF)~~					
		Offsite Surveys	~~Radiation Controls Coordinator (TSC)~~	±	2 ⁽ⁿ⁾	±		
			~~Environmental Coordinator (EOF)~~					
			~~Field Team Communicator (EOF)~~					
		Onsite Surveys	Field Team Personnel ^(h)	24	(e)			
			Field Team Personnel ^(h)					
		In-plant Surveys	RP Technicians or equivalent	2±	(e)			
		Chemistry	Chemistry Personnel	±(b)	(e)			
RP Supervisory	Radiation Protection Manager (TSC)	1	1					
	Radiation Protection Manager (EOF)							
Reason for Change - Changes to Table B-1 reflect the changes to the TMI ERO discussed in this Attachment. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. This revision is further discussed in Attachment 1, Section 5.2.4, Evaluation of Proposed Changes. The reassignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments). The specified EOF positions are being removed from the SEP and managed and controlled by EPIPs.								

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

EP-TM-1000, Part II Table TMI B-1

	Functional Area	Major Tasks	Emergency Positions	Minimum Shift Size	Minimum Staffing (a)60 Minute Augmentation	Minimum Staffing Other On-Call	Full Augmentation
Current Wording EP-TM-1000, Part II Table TMI B-1,	5. Plant System Engineering, Repair and Corrective Actions	Technical Support	STA / Incident Assessor ^(l) (CR)	1		1 ^(k)	
			Technical Manager (TSC)		1		
			Core Thermal/ Hydraulics Engineer (TSC)		1		
			Mechanical Engineer (TSC)		1		
			Electrical Engineer (TSC)		1		
			SAMG Decision Maker (TSC)		1 ^(b)		
			SAMG Evaluator (TSC)		2 ^(b)		
			Operations Manager (TSC)		1		
		Repair and Corrective Actions	Radiation Controls Engineer (TSC)	1 ^(b)			1
			Mechanical Maintenance (OSC)		1 ^(k)		(c)
			Electrical Maintenance/I&C (OSC)		1 ^(k)		(c)
			Maintenance Manager (TSC)		1		
			OSC Director/Repair Team Lead (OSC)		1		
			Assistant OSC Director (OSC)				1
		Accident Analysis	Ops Lead & Support Personnel (OSC)	1 ^(b)			(c)
			Technical Support Manager (EOF)				1
			Operations Advisor (EOF)				1
			Operations Assistant (EOF)				1
			Technical Advisor (EOF)				1
Proposed Wording EP-TM-1000, Part II Table TMI B-1,	5. Plant System Engineering, Repair and Corrective Actions	Technical Support	~~STA / Incident Assessor^(l) (CR)~~	~~1~~		~~1^(k)~~	
			Technical Manager (TSC)		1		
			~~Core Thermal/ Hydraulics Engineer (TSC)~~		~~1~~		
			~~Mechanical Engineer (TSC)~~		~~1~~		
			~~Electrical Engineer (TSC)~~		~~1~~		
			~~SAMG Decision Maker (TSC)~~		~~1^(b)~~		
			~~SAMG Evaluator (TSC)~~		~~2^(b)~~		
			Operations Manager (TSC)		1		
		Repair and Corrective Actions	~~Radiation Controls Engineer (TSC)~~	1 ^(b)			~~1~~
			Mechanical Maintenance (OSC)		1 ^(k)		~~(c)~~
			Electrical Maintenance I&C (OSC)		1 ^(k)		~~(c)~~
			Maintenance Manager (TSC)		1		
			OSC Director/Repair Team Lead (OSC)		1		
			~~Assistant OSC Director (OSC)~~				~~1~~
		Accident Analysis ^(l)	~~Ops Lead & Support Personnel (OSC)~~	1 ^(b)			~~(c)~~
			~~Technical Support Manager (EOF)~~				~~1~~
			~~Operations Advisor (EOF)~~				~~1~~
			~~Operations Assistant (EOF)~~				~~1~~
			~~Technical Advisor (EOF)~~				~~1~~

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

Reason for Change - Changes to Table B-1 reflect the changes to the TMI ERO discussed in this Attachment. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. This revision is further discussed in Attachment 1, Section 5.2.5, Evaluation of Proposed Changes. The reassignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments). The specified EOF positions are being removed from the SEP and managed and controlled by EIPs.

EP-TM-1000, Part II Table TMI B-1

	Functional Area	Major Tasks	Emergency Positions	Minimum Shift Size	Minimum Staffing (a) 60 Minute Augmentation	Full Augmentation
Current Wording EP-TM-1000, Part II Table TMI B-1,	6. In-Plant Protective Actions	Radiation Protection	RP Technicians, or equivalent	2 ^(b)	4	(e)
Proposed Wording EP-TM-1000, Part II Table TMI B-1,	6. In-Plant Protective Actions	Radiation Protection	RP Technicians, or equivalent	2 ^(b)	14	(e)
Reason for Change - Changes to Table B-1 reflect the changes to the TMI ERO discussed in this Attachment. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. This revision is further discussed in Attachment 1, Section 5.2.6, Evaluation of Proposed Changes. The reassignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).						

EP-TM-1000, Part II Table TMI B-1

	Functional Area	Major Tasks	Emergency Positions	Minimum Shift Size
Current Wording EP-TM-1000, Part II Table TMI B-1,	7. Fire Fighting	--	Fire Brigade ^(e)	6
Proposed Wording EP-TM-1000, Part II Table TMI B-1,	7. Fire Fighting	--	Fire Brigade ^(e)	Per fire plan ⁶
Reason for Change - Changes to Table B-1 reflect the changes to the TMI ERO discussed in this Attachment. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. This revision is further discussed in Attachment 1, Section 5.2.7, Evaluation of Proposed Changes. The reassignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).				

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

EP-TM-1000, Part II Table TMI B-1

	Functional Area	Major Tasks	Emergency Positions	Minimum Shift Size	Minimum Staffing (a)60 Minute Augmentation	Full Augmentation
Current Wording EP-TM-1000, Part II Table TMI B-1	9. Site Access Control and Personnel Accountability	Security & Accountability	Security Team Personnel Security Coordinator ⁽ⁱ⁾ (TSC/EOF)	(f)	(f)	2
Proposed Wording EP-TM-1000, Part II Table TMI B-1	9. Site Access Control and Personnel Accountability	Security & Accountability	Security Team Personnel Security Coordinator ⁽ⁱ⁾ ~~(TSC/EOF)~~	(f)	~~(f)~~ 1	2
Reason for Change - Changes to Table B-1 reflect the changes to the TMI ERO discussed in this Attachment. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. This revision is further discussed in Attachment 1, Section 5.2.9, Evaluation of Proposed Changes. The reassignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).						

EP-TM-1000, Part II Table TMI B-1

	Functional Area	Major Tasks	Emergency Positions	Minimum Shift Size	Minimum Staffing (a)60 Minute Augmentation	Minimum Staffing 90-minute Augmentation	Full Augmentation
Current Wording EP-TM-1000, Part II Table TMI B-1,	10. Resource Allocation and Administration	Logistics/ Administration	Logistics Manager (EOF) Logistics Coordinator (TSC) Administrative Coordinator (EOF) Clerical Staff (TSC/OSC/EOF) Events Recorder (EOF) Computer Specialist (EOF)		1		1 1 (c) 1 1
Proposed Wording EP-TM-1000, Part II Table TMI B-1,	10. Resource Allocation and Administration	Logistics/ Administration	~~Logistics Manager (EOF)~~ ~~Logistics Coordinator (TSC)~~ ~~Administrative Coordinator (EOF)~~ ~~Clerical Staff (TSC/OSC/EOF)~~ ~~Events Recorder (EOF)~~ Computer Specialist (EOF)		~~1~~		~~1~~ ~~1~~ (c) ~~1~~ ~~1~~
Reason for Change - Changes to Table B-1 reflect the changes to the TMI ERO discussed in this Attachment. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. This revision is further discussed in Attachment 1, Section 5.2.10, Evaluation of Proposed Changes. The reassignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments). The specified EOF positions are being removed from the SEP and managed and controlled by EPIPs.							

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

EP-TM-1000, Part II Table TMI B-1

	Functional Area	Major Tasks	Emergency Positions	Minimum Shift Size	Minimum Staffing 90-minute Augmentation <i>Other On-Call</i>	Full Augmentation
Current Wording EP-TM-1000, Part II Table TMI B-1,	11. Public Information	Media Interface Information Development Media Monitoring and Rumor Control Facility Operation and Control	Corporate Spokesperson (JIC) Rad Protection Spokesperson (JIC) Technical Spokesperson (JIC) Public Information Director (JIC) News Writer (JIC) Media Monitoring Staff (JIC) Rumor Control Staff (JIC) JIC Director (JIC) JIC Coordinator (JIC) Administrative Coordinator (JIC) Events Recorder (JIC) Clerical Support (JIC) Access Controls (JIC)		1 1 1	1 1 1 (c) (c) 1 1 1 (c) 1
Proposed Wording EP-TM-1000, Part II Table TMI B-1,	11. Public Information	Media Interface Information Development Media Monitoring and Rumor Control ^(b) Facility Operation and Control	~~Corporate Spokesperson (JIC)~~ ~~Rad Protection Spokesperson (JIC)~~ ~~Technical Spokesperson (JIC)~~ Public Information Director (JIC) ~~News Writer (JIC)~~ ~~Media Monitoring Staff (JIC)~~ ~~Rumor Control Staff (JIC)~~ JIC Director (JIC) ~~JIC Coordinator (JIC)~~ ~~Administrative Coordinator (JIC)~~ ~~Events Recorder (JIC)~~ ~~Clerical Support (JIC)~~ ~~Access Controls (JIC)~~		1 ^(g) 1 ^(g) 1 ^(g)	~~±~~ ~~±~~ ~~±~~ ~~(c)~~ ~~(c)~~ ~~±~~ ~~±~~ ~~±~~ ~~(c)~~ ~~±~~
Reason for Change - Changes to Table B-1 reflect the changes to the TMI ERO discussed in this Attachment. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. This revision is further discussed in Attachment 1, Section 5.2.11, Evaluation of Proposed Changes. The reassignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments). The specified JIC positions are being removed from the SEP and managed and controlled by EIPs.						

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

EP-TM-1000, Part II Table TMI B-1

	Functional Area	Major Tasks	Emergency Positions	Minimum Shift Size	Minimum Staffing		Full Augmentation
					(a) 60 Minute Augmentation	Other On-Call	
Current Wording EP-TM-1000, Part II Table TMI B-1,							
Total:				17	32	4	34+
Proposed Wording EP-TM-1000, Part II Table TMI B-1,							
Total:				11 (9)^(e)17	1832	64	34+
Reason for Change - Changes to Table B-1 reflect the changes to the TMI ERO discussed in this Attachment. Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. This revision is further discussed in Attachment 1, Evaluation of Proposed Changes. The reassignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).							

EP-TM-1000, Part II Table TMI B-1

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000, Part II Table TMI B-1 NOTES	Notes (a) Response time is based on optimum travel conditions. (b) May be provided by personnel assigned other functions. Personnel can fulfill multiple functions. (c) Personnel numbers depend on the type and extent of the emergency. (d) Staffing of the County EOC Liaison position is not required based on agreements with offsite agencies; however, every effort will be made to dispatch an Exelon Nuclear representative upon request from County EOC Director. (e) Fire Brigade per FSAR / TRM, as applicable. Includes one NSO for oversight in addition to the 5 Fire Brigade members per TMI Fire Plan.	Notes (a) Response time is based on optimum travel conditions. (b) May be provided by personnel assigned other functions. Personnel can fulfill multiple functions. (c) ~~Personnel numbers depend on the type and extent of the emergency. Deleted~~ (d) ~~Staffing of the County EOC Liaison position is not required based on agreements with offsite agencies; however, every effort will be made to dispatch an Exelon Nuclear representative upon request from County EOC Director. Deleted~~ (e) ~~Fire Brigade per FSAR / TRM, as applicable. Includes one NSO for oversight in addition to the 5 Fire Brigade members per TMI Fire Plan. The Fire Brigade will be staffed per the TMI Fire Protection Plan. Upon a~~	Notes are revised to reflect changes as described above and in Attachment 1, Evaluation of Proposed Changes.

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	(f) Function performed by on-shift security personnel. (g) The following Emergency Public Information Organization personnel will be designated "minimum staffing" (on-call) positions, but are not subject to the 60-minute response time requirement: Corporate Spokesperson, Public Information Director and JIC Director. (h) Each Field Monitoring Team consists of a qualified Lead and Driver, trained in plume monitoring and air sample collection, as appropriate to designated task. Qualified on-shift personnel may also be mobilized, if required based on event, to support initial field monitoring requirements. (i) Refer to Section 2.1.3 for description of on-shift STA/Incident Assessor staffing requirements. (j) TSC Security Coordinator position will be staffed by TMI Security personnel. The EOF Security Coordinator position will be staffed by Corporate personnel. (k) Within 60 Minutes, TMI is committed to having one (1) Mechanical Maintenance Technician and one (1) Electrical Maintenance Technician onsite and assigned to the OSC. Within 90 minutes, TMI is committed to have one (1) I&C Technician onsite and assigned to the OSC. Technicians who are already on shift may satisfy this requirement.	successful evaluation and approval of an incipient Fire Brigade in accordance with 10 CFR 50.48(f), the Fire Brigade compliment will be reduced to three (3) persons. This is anticipated to occur sometime following shutdown. Until the 50.48(f) Fire Brigade evaluation is completed, the Fire Brigade will consist of five (5) persons. (f) Function performed by on-shift security personnel. (g) The following Emergency Public Information Organization personnel will be designated "minimum staffing" (on-call) positions, but are not subject to the 60-minute response time requirement: Corporate Spokesperson, Public Information Director and JIC Director will be staffed at 90-minutes from the declaration of an Alert of higher. (h) Each Field Monitoring Team consists of a qualified Lead and Driver, trained in plume monitoring and air sample collection, as appropriate to designated task. Qualified on-shift personnel may also be mobilized, if required based on event, to support initial field monitoring requirements. (i) ~~Refer to Section 2.1.3 for description of on-shift STA/Incident Assessor staffing requirements.~~ Deleted (j) TSC Security Coordinator position will be staffed by TMI Security personnel. ~~The EOF Security Coordinator position will be staffed by Corporate personnel.~~ (k) Within 60 Minutes, TMI is committed to having one (1) Mechanical Maintenance Technician and one (1) Electrical Maintenance Technician onsite and assigned to the OSC. ~~Within 90 minutes, TMI is committed to have one (1) I&C Technician onsite and assigned to the OSC.~~ Technicians who are already on shift may satisfy this requirement. (l) Positions controlled by Emergency Preparedness Implementing Procedures (EPIPs). (m) Positions eliminated due to TMI being in a permanent defueled condition. (n) These positions are 90-minute responders, but are not required for facility activation.	

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II Figure B-1a	<u>Figure B-1a: Exelon Overall ERO Command Structure</u> Corporate Emergency Director EOF Director Station Emergency Director Corporate Spokesperson	<u>Figure B-1a: Exelon Overall ERO Command Structure</u> Corporate Emergency Director EOF ~~Director~~Staff Station Emergency Director Corporate Spokesperson	Changes to Figure B-1a reflect the changes to the Three Mile Island ERO discussed in this Attachment as well as Attachment 1 and Attachment 4.
EP-TM-1000 Part II Figure B-1b	Figure B-1b Emergency Onsite Organization Station Emergency Director* Security Coordinator TSC Director State / Local Communicator Logistics Coordinator Rad Protection Manager Maintenance Manager Operations Manager* Technical Manager* Rad Controls Coordinator Rad Controls Engineer HPN Communicator ENS Communicator TSC Operations Communicator TSC Technical Communicator Core / Thermal Engineer Mechanical Engineer Electrical Engineer Control Room Shift Manager Control Room Shift Staff CR Operations Communicator CR Damage Cont Communicator TSC Damage Cont Communicator OSC Director Assistant OSC Director OSC Damage Cont Communicator Mechanical Pool (2) Electrical/I&C Pool (3) Rad Protection Pool (8) Chemistry Pool (1) Operations Pool Shaded/Bold Boxes indicate minimum staffing positions.	Figure B-1b Emergency Onsite Organization Station Emergency Director* Security Coordinator ~~TSC Director~~ ~~State / Local Communicator~~ ~~Logistics Coordinator~~ Rad Protection Manager Maintenance Manager Operations Manager* Technical Manager* ~~Rad Controls Coordinator~~ ~~Rad Controls Engineer~~ ~~HPN Communicator~~ ENS Communicator ~~TSC Operations Communicator~~ ~~TSC Technical Communicator~~ ~~Core / Thermal Engineer~~ ~~Mechanical Engineer~~ ~~Electrical Engineer~~ Control Room Shift Manager Control Room Shift Staff ~~CR Operations Communicator~~ ~~CR Damage Cont Communicator~~ ~~TSC Damage Cont Communicator~~ OSC Director ~~Assistant OSC Director~~ ~~OSC Damage Cont Communicator~~ Mechanical Pool (12) Electrical/I&C Pool (13) Rad Protection Pool (38) ~~Chemistry Pool (1)~~ ~~Operations Pool~~ Shaded/Bold Boxes indicate minimum staffing positions.	Changes to Figure B-1b reflect the changes to the Three Mile Island ERO discussed in this Attachment as well as Attachment 1 and Attachment 4. The note "SAMG functions may be assigned to other qualified personnel. Minimum staffing requires 1 Decision-Maker and 2 Evaluators" is deleted from the Figure. SAMG does not apply and evaluators are no longer needed for a permanently shutdown and defueled condition.

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	ERO response pool personnel do not include the on-shift complement. * SAMG functions may be assigned to other qualified personnel. Minimum staffing requires 1 Decision-Maker and 2 Evaluators. ** Refer to Table TMI B-1 for required staffing levels	~~ERO response pool personnel do not include the on-shift complement.~~ ~~* SAMG functions may be assigned to other qualified personnel. Minimum staffing requires 1 Decision-Maker and 2 Evaluators.~~ ~~** Refer to Table TMI B-1 for required staffing levels~~	
Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II Figure B-1c	Figure B-1c Emergency Offsite Organization EOF Director Rad Protection Manager Technical Support Manger Logistics Manager Environmental Coordinator Field Team Communicator Field Monitoring Teams (2) Dose Assmt Coordinator Dose Assessor HPN Communicator Operations Advisor Operations Assistant ENS Communicator Technical Advisor Events Records Security Coordinator Administrative Coordinator Computer Specialist Clerical Support State/Local Communicator Regulatory Liaison EOC Communicator State EOC Liaisons Shaded/Bolded Boxes indicate minimum staffing positions.	Figure B-1c Emergency Offsite Organization EOF-Corporate Emergency Director Rad Protection Manager ~~Technical Support Manger~~ ~~Logistics Manager~~ ~~Environmental Coordinator~~ ~~Field Team Communicator~~ Field Monitoring Teams (2) Dose Assmt Coordinator ~~Dose Assessor~~ ~~HPN Communicator~~ ~~Operations Advisor~~ ~~Operations Assistant~~ ~~ENS Communicator~~ ~~Technical Advisor~~ ~~Events Records~~ ~~Security Coordinator~~ ~~Administrative Coordinator~~ Computer Specialist ~~Clerical Support~~ State/Local Communicator ~~Regulatory Liaison~~ ~~EOC Communicator~~ ~~State EOC Liaisons~~ Shaded/Bolded Boxes indicate minimum staffing positions.	The revision removes the Field Team Communicator, ENS Communicator, Events Records, and EOC Communicator positions from the SEP. The positions are being managed and controlled by EPIPs. Evaluation of these ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. See also Attachment 1 for further discussion of ERO positions deleted.

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II Figure B-1d	Figure B-1d Emergency Public Information Organization Corporate Spokesperson JIC Director Technical Spokesperson Rad Protection Spokesperson Public Info Director Administrative Coordinator JIC Coordinator Access Controller Facility Support Staff Clerical Staff News Writer Events Recorder Media Monitoring Staff Rumor Control Staff Shaded/Bolded Boxes indicate minimum staffing positions.	Figure B-1d Emergency Public Information Organization Corporate Spokesperson JIC Director ~~Technical Spokesperson~~ ~~Rad Protection Spokesperson~~ Public Info Director ~~Administrative Coordinator~~ ~~JIC Coordinator~~ ~~Access Controller~~ ~~Facility Support Staff~~ ~~Clerical Staff~~ ~~News Writer~~ ~~Events Recorder~~ ~~Media Monitoring Staff~~ ~~Rumor Control Staff~~ Shaded/Bolded Boxes indicate minimum staffing positions.	The revision removes the Technical Spokesperson, Rad Protection Spokesperson, Administrative Coordinator, Events Recorder positions from the SEP. The positions are being managed and controlled by EIPs. Evaluation of these ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. See also Attachment 1 for further discussion of ERO positions deleted.
EP-TM-1000 Part II Step D.1	<i>b. <u>Alert</u> - Events are in process or have occurred which indicate an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of EPA Protective Action Guideline exposure levels.</i> <...> Required actions at this classification include: <...> • <i>Notification of INPO and ANI.</i> <...>	<i>b. <u>Alert</u> - Events are in process or have occurred which indicate an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of EPA Protective Action Guideline exposure levels.</i> <...> Required actions at this classification include: <...> • Notification of ~~INPO~~ and ANI. <...>	The revision reflects deletion of INPO because INPO's oversight would not apply to a permanently shutdown facility.

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II Step D.1.d	d. <i>General Emergency</i> - Event(s) are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area. <...>	d. <i>General Emergency</i> - Event(s) are in process or have occurred which involve actual or imminent substantial fuel core degradation or melting ~~with potential for loss of containment integrity~~ or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area. <...>	This step is revised to remove reference to "core degradation" and replace the term with "fuel degradation" to maintain the intent of the definition of General Emergency. The reactor core will no longer exist in a permanently shutdown and defueled condition. Containment integrity is no longer required for a permanently shutdown and defueled condition.
EP-TM-1000 Part II Step D.1.e	e. <i>Recovery</i> : That period when the emergency phase is over and activities are being taken to return the situation to a normal state (acceptable condition). The plant is under control and no potential for further degradation to the plant or the environment is believed to exist. Recovery will be classified by the Station Emergency Director after obtaining authorization from the Corporate Emergency Director. Required actions at this classification include: • <...> • INPO and ANI are notified of Recovery classification.	e. <i>Recovery</i> : That period when the emergency phase is over and activities are being taken to return the situation to a normal state (acceptable condition). The plant is under control and no potential for further degradation to the plant or the environment is believed to exist. Recovery will be classified by the Station Emergency Director after obtaining authorization from the Corporate Emergency Director. Required actions at this classification include: • <...> • ~~INPO and ANI are~~ is notified of Recovery classification.	The revision reflects deletion of INPO because INPO's oversight would not apply to a permanently shutdown facility.
EP-TM-1000 Part II Section D.2	2. Emergency Action Level Technical Bases <...>An emergency is classified after assessing abnormal plant conditions and comparing them to EAL Threshold Values for the appropriate Initiating Conditions. Matrix tables organized by recognition categories are used to facilitate the comparison. The matrix tables are used when the unit is in the Technical Specification defined modes of Power Operations, Hot Standby, Hot Shutdown (for classifications purposes, startup evolutions are included in the Power Operations	2. Emergency Action Level Technical Bases <...>An emergency is classified after assessing abnormal plant conditions and comparing them to EAL Threshold Values for the appropriate Initiating Conditions. Matrix tables organized by recognition categories are used to facilitate the comparison. ~~The matrix tables are used when the unit is in the Technical Specification defined modes of Power Operations, Hot Standby, Hot Shutdown (for classifications purposes, startup evolutions are included in the Power Operations mode) and Cold Shutdown or~~	The revision deletes reference to operating modes which are no longer possible for a permanently shutdown and defueled condition. References to conditions other than Defueled are no longer required.

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	mode) and Cold Shutdown or Refueling (for classification purposes a defueled plant will be considered in the Refueling mode).	~~Refueling (for classification purposes a defueled plant will be considered in the Refueling mode).~~	
EP-TM-1000 Part II Section E.2.b	2) <u>Nuclear Regulatory Commission (NRC):</u> <...> Specific requirements for the notifications to the NRC for classified emergency events are detailed in 10 CFR 50.72 with guidance provided in the Exelon Reportability Manual. The computerized data link to the NRC, referred to as the Emergency Response Data System (ERDS), continuously supplies specified plant data to the NRC.	2) <u>Nuclear Regulatory Commission (NRC):</u> <...> Specific requirements for the notifications to the NRC for classified emergency events are detailed in 10 CFR 50.72 with guidance provided in the Exelon Reportability Manual. ~~The computerized data link to the NRC, referred to as the Emergency Response Data System (ERDS), continuously supplies specified plant data to the NRC.~~	The revision deletes reference to ERDS. Following permanent shutdown and defueling of the reactor, ERDS is not required. (reference Memorandum from NSIR to Regions dated June 2, 2014, accession number ML14099A520) This has been discussed with the States of Pennsylvania and they have concurred that they will no longer need ERDS once the station is permanently shutdown and defueled.
EP-TM-1000 Part II Section E.2.c	c. <u>Support Organizations:</u> When an emergency is initially classified, escalated or terminated, notifications are promptly made to the following support organizations: • Medical, rescue, and firefighting support services are notified for assistance as the situation dictates. • The Institute of Nuclear Power Operations (INPO) is notified at an Alert or higher classification with requests for assistance as necessary. • <...>	c. <u>Support Organizations:</u> When an emergency is initially classified, escalated or terminated, notifications are promptly made to the following support organizations: • Medical, rescue, and firefighting support services are notified for assistance as the situation dictates. • ~~The Institute of Nuclear Power Operations (INPO) is notified at an Alert or higher classification with requests for assistance as necessary.~~ • <...>	The revision reflects deletion of INPO because INPO's oversight would not apply to a permanently shutdown facility.
EP-TM-1000 Part II, Section F b-d	8) <u>Emergency Response Data System (ERDS):</u> ERDS will continuously supply the NRC with selected plant data points on a near real time basis. The selected data points are transmitted automatically to the NRC at approximately 1-minute intervals.	~~8) <u>Emergency Response Data System (ERDS):</u> ERDS will continuously supply the NRC with selected plant data points on a near real time basis. The selected data points are transmitted automatically to the NRC at approximately 1 minute intervals.~~	The revision deletes reference to ERDS. Following permanent shutdown and defueling of the reactor, ERDS is not required. (reference Memorandum from NSIR to Regions dated June 2,

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			2014, accession number ML14099A520) This has been discussed with the States of Pennsylvania and they have concurred that they will no longer need ERDS once the station is permanently shutdown and defueled.
EP-TM-1000 Part II, Section F Figure F-1	<u>Figure F-1: Exelon Notification Scheme (For Full Augmentation)</u> TSC (ENS/HPN Comm) (TSC Director) EOF (ENS/HPN Comm) (State/Local Comm) INPO	<u>Figure F-1: Exelon Notification Scheme (For Full Augmentation)</u> TSC (ENS/~~HPN~~ Comm) (~~TSC Director~~)(Station Emergency Director) EOF (~~ENS/HPN Comm~~) (State/Local Comm) ~~INPO~~	The revision reflects deletion of INPO because INPO's oversight would not apply to a permanently shutdown facility.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II, Section G Section G.3	2) <u>The Joint Information Center (JIC):</u> <...> <i>Each station has a designated JIC. The JIC is equipped with appropriate seating, lighting and visual aids to allow for public announcements and briefings to be given to the news media. Additionally, the JIC is equipped with commercial telephone lines for making outgoing calls. The Emergency Public Information Organization functions from the JIC and EOF in preparing and releasing utility information about the emergency event. The JIC is activated at the declaration of an Alert or higher classification. Functions of the JIC include:</i> * <...> * <i>Providing responses to media inquiries through Media Monitoring Staff telephones that the media can call for information about an emergency.</i>	2) <u>The Joint Information Center (JIC):</u> <...> Each station has a designated JIC. The JIC is equipped with appropriate seating, lighting and visual aids to allow for public announcements and briefings to be given to the news media. Additionally, the JIC is equipped with commercial telephone lines for making outgoing calls. The Emergency Public Information Organization functions from the JIC and EOF in preparing and releasing utility information about the emergency event. The JIC is activated at the declaration of an Alert or higher classification. Some JIC personnel may perform functions remotely from alternate locations while remaining in contact with personnel in the JIC facility (e.g., media monitoring, rumor control, news writers, issuance of press releases). The JIC Director and Corporate Spokesperson will ensure communication and coordination of these functions with the EOF and JIC staff. Functions of the JIC include: * <...> * Providing responses to media inquiries through ~~Media Monitoring Staff~~ telephones that the media can call for information about an emergency.	Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. This revision is further discussed in Attachment 1 Section 5.2.11, Evaluation of Proposed Changes. The re-assignment of ERO responsibilities will be further demonstrated through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).
EP-TM-1000 Part II, Section G Section G.4 Coordination of Public Information	4. Coordination of Public Information c. <i>Rumors or misinformation are identified during an emergency by the media/rumor control monitors. They respond to public and news media calls and monitor media reports.</i>	4. Coordination of Public Information c. Rumors or misinformation are identified during an emergency by the ~~media/rumor control monitors~~ JIC Staff. They respond to public and news media calls and monitor media reports.	Evaluation of this ERO position's responsibilities is performed in Attachment 4, ERO Task Analysis, including an evaluation of which responsibilities can be deleted and which can be reassigned. This revision is further discussed in Attachment 1 Section 5.2.11, Evaluation of Proposed Changes. The re-assignment of ERO responsibilities will be further demonstrated

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
			through the performance of drills utilizing the revised procedures and staffing (reference Attachment 5 Commitments).
EP-TMI-1000 Part II, Section H.1.a	a. <u>Station Control Room:</u> The Control Room is the centralized onsite location from which the Nuclear Station's reactors and major plant systems are operated. The Control Room is equipped with instrumentation to supply detailed information on the reactors and major plant systems. The Control Room is continuously staffed with qualified licensed operators. The Control Room is the first onsite facility to become involved with the response to emergency events. Control Room personnel must evaluate and effect control over the emergency and initiate activities necessary for coping with the emergency until such time that support centers can be activated. These activities shall include: - Reactor and plant control. <...>	a. <u>Station Control Room:</u> The Control Room is the centralized onsite location from which the Nuclear Station's ~~reactors and major~~ plant systems necessary to support the spent fuel pool are operated. The Control Room is equipped with instrumentation to supply detailed information on the ~~reactors and major~~ plant systems. The Control Room is continuously staffed with qualified ~~licensed~~ operators. The Control Room is the first onsite facility to become involved with the response to emergency events. Control Room personnel must evaluate and effect control over the emergency and initiate activities necessary for coping with the emergency until such time that support centers can be activated. These activities shall include: ~~Reactor and p~~Plant control. <...>	The revision deletes reference to "reactors" in the description of the Station Control Room and adds reference to spent fuel. After operations have ceased, and permanent defueling is completed, there will no longer be a reactor on site. Reference to the control room activities is now limited to plant control and specifically for systems necessary to support the stored spent fuel. This step is revised to remove reference to Active Licenses for Control Room personnel. With permanent shutdown and all fuel relocated to the fuel pool, the reference to Active licenses is no longer applicable to TMI.
EP-TM-1000 Part II, Section H.1.b	<u>Technical Support Center (TSC):</u> (last Paragraph in the Section) <...>The TSC has access to a complete set of as-built drawings and other records, including general arrangement diagrams, P&IDs, and the electrical schematics. The TSC has the capability to record and display vital plant data, in real time, to be used by knowledgeable individuals responsible for engineering and management support of reactor operations, and for implementation of emergency procedures.	<u>Technical Support Center (TSC):</u> (Last Paragraph in section) <...>The TSC has access to a complete set of as-built drawings and other records, including general arrangement diagrams, P&IDs, and the electrical schematics. The TSC has the capability to record and display vital plant data, in real time, to be used by knowledgeable individuals responsible for engineering and management support of ~~reactor~~ operations, and for implementation of emergency procedures.	The revision removes reference to support of reactor operations from the description of the TSC. Following permanent shutdown and defueling, the TSC will no longer support "reactor" operations.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II, Section H.1.c	<i>c. Operations Support Center (OSC): Three Mile Island Nuclear Station has established an OSC. The OSC is the onsite location to where station support personnel report during an emergency and from which they will be dispatched for assignments or duties in support of emergency operations. The OSC shall be activated whenever the TSC is activated, but need not remain activated at the Alert level if its use is judged unnecessary by the Station Emergency Director. At the Site Area and General Emergency levels, the OSC or an alternate OSC shall be activated at all times (except in the case of a Hostile Action Event when site access is restricted). Activation for other events is optional. Station disciplines reporting to the OSC include, but are not limited to:</i> <...>	<i>c. Operations Support Center (OSC): Three Mile Island Nuclear Station has established an OSC. The OSC is the onsite location to where station support personnel report during an emergency and from which they will be dispatched for assignments or duties in support of emergency operations. The OSC shall be activated whenever the TSC is activated, but need not remain activated at the Alert level if its use is judged unnecessary by the Station Emergency Director. At the Site Area and General Emergency levels, the OSC or an alternate OSC shall be activated at all times (except in the case of a Hostile Action Event when site access is restricted). Activation for other events is optional. Station disciplines that may be called in to support ~~reporting to~~ the OSC include, but are not limited to:</i> <...>	This revision reflects that additional OSC Staff will need to be called out based on the accident. See description of OSC Pooled Resource positions above for justification.
EP-TM-1000 Part II, Section H.4.	4. Activation <...> a. Minimum staffing has been achieved. b. The facility is functional. <i>Although the minimum staffing criteria applies to the JIC, the activation time is not applicable. Public Information personnel must first coordinate the decision to activate the JIC with the appropriate offsite authorities.</i> <i>The Director in charge may elect to activate their facility without meeting minimum staffing; if it has been determined that sufficient personnel are available to fully respond to the specific event (this would not constitute a successful minimum staff response).</i>	4. Activation <...> a. Minimum staffing has been achieved. b. The facility is functional. Although the minimum staffing criteria applies to the JIC, the activation time is 90-minutes from an Alert or higher classification. ~~not applicable. Public Information personnel must first coordinate the decision to activate the JIC with the appropriate offsite authorities.~~ The Director in charge may elect to activate their facility without meeting minimum staffing; if it has been determined that sufficient personnel are available to fully respond to the specific event (this would not constitute a successful minimum staff response).	ERO Staffing tables relocated to EP-TM-1000.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II, Section H.5. a.1	1) <u>Meteorological Instrumentation:</u> <...> With regard to Exelon Nuclear's meteorological monitoring program, there has been a quality assurance program adopted from 10 CFR 50, Appendix B. However, since the meteorological facilities are not composed of structures, systems, and components that prevent or mitigate the consequences of postulated accidents and are not "safety related," not all aspects of 10 CFR 50, Appendix B, apply. Those aspects of quality assurance germane to supplying good meteorological information for a nuclear power station were adopted into the meteorological quality assurance program. The meteorological program is also subject to the requirements of the QATR, Section 19, Augmented Quality.	1) <u>Meteorological Instrumentation:</u> <....> With regard to Exelon Nuclear's meteorological monitoring program, there has been a quality assurance program adopted from 10 CFR 50, Appendix B. However, since the meteorological facilities are not composed of structures, systems, and components that prevent or mitigate the consequences of postulated accidents and are not "safety related," not all aspects of 10 CFR 50, Appendix B, apply. Those aspects of quality assurance germane to supplying good meteorological information for a nuclear power station were adopted into the meteorological quality assurance program. The meteorological program is also subject to the requirements of the Decommissioning Quality Assurance Program-QATR, Section 19, Augmented Quality.	TMI will No longer be subject to the Quality Assurance Topical Report (QATR) in a permanently shutdown and defueled condition.
EP-TM-1000 Part II, Section H.5.b.1.c	c) <i>The accident, or high range, radiation monitoring system monitors radiation levels at various locations within the operating area. These are high range instruments used to track radiation levels under accident or post-accident conditions. These instruments include the Containment/Drywell Radiation Monitors.</i>	c) The accident, or high range, radiation monitoring system monitors radiation levels at various locations within the operating area. These are high range instruments used to track radiation levels under accident or post-accident conditions. ~~These instruments include the Containment/Drywell Radiation Monitors.~~	The revision reflects the deletion of the monitors for containment and drywell serve no EP function for a permanently defueled reactor at Three Mile Island once the fuel is relocated to the fuel pool.
EP-TM-1000 Part II, Section H.5.b.2	2) <u>Liquid and Gaseous Sampling Systems:</u> <i>The process sampling system consists of the normal sampling system and additional sampling panels located throughout the plant. Sampling systems are installed or can be modified to permit reactor coolant and containment atmosphere sampling even under severe accident conditions.</i> <i>The sampling systems use a number of manual sampling techniques to enable reactor coolant and containment sampling operations over a wide range of plant conditions. It is capable of providing information relative to post-accident plant conditions to allow operator actions to be taken to mitigate and control the course of an accident. Refer to the Three</i>	2) <u>Liquid and Gaseous Sampling Systems:</u> The process sampling system consists of the normal sampling system and additional sampling panels located throughout the plant. Sampling systems are installed or can be modified to permit ~~reactor coolant and containment atmosphere~~ sampling even under severe accident conditions. The sampling systems use a number of manual sampling techniques to enable ~~reactor coolant and containment~~ sampling operations over a wide range of plant conditions. It is capable of providing information relative to post-accident plant conditions to allow operator actions to be taken to mitigate and control the course of an accident. Refer to the Three Mile Island	The revision reflects the deletion of the terms reactor coolant, containment and containment atmosphere. These terms are no longer applicable in a permanently shutdown and defueled condition.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	<i>Mile Island Nuclear Station UFSAR for further detail on sampling capabilities.</i>	Nuclear Station UFSAR for further detail on sampling capabilities.	
EP-TM-1000 Part II, Section H.5.c	<i>c. <u>Process Monitors</u>: The Control Room and applicable redundant backup locations are equipped with extensive plant process monitors for use in both normal and emergency conditions. These indications include but are not limited to reactor coolant system pressure and temperature, containment pressure and temperature, liquid levels, flow rates, status or lineup of equipment components. This instrumentation provides the basis for initiation of corrective actions.</i>	c. <u>Process Monitors</u> : The Control Room and applicable redundant backup locations are equipped with extensive plant process monitors for use in both normal and emergency conditions. These indications include but are not limited to ~~reactor coolant system pressure and temperature, containment pressure and temperature,~~ liquid levels, flow rates, status or lineup of equipment components. This instrumentation provides the basis for initiation of corrective actions.	The step for Process Monitors is being revised to delete reference to RCS and containment pressure and temperature indications. These parameters are no longer applicable in a permanently shutdown and defueled condition. References to operating reactor parameters are no longer required.
EP-TM-1000 Part II, Section I.1	1. Plant Parameters and Corresponding Emergency Classification <...> <i>In order to adequately assess the emergency condition, each emergency facility has the necessary equipment and instrumentation installed to make available essential plant information on a continuous basis. Evaluation of plant conditions is accomplished through the monitoring of plant parameters both from indication in the Control Room and within the plant. Some of the more important plant parameters to be monitored in the Control Room are assembled into a single display location, which is entitled the "Safety Parameter Display System" (SPDS). The SPDS monitors such parameters as: reactor coolant system pressure, reactor or pressurizer water level, containment pressure, suppression pool water level and temperature, reactor power, safety system status, containment radiation level and effluent monitor readings. The instrumentation and equipment capabilities available for each emergency facility are described in Section H.</i>	1. Plant Parameters and Corresponding Emergency Classification <...> In order to adequately assess the emergency condition, each emergency facility has the necessary equipment and instrumentation installed to make available essential plant information on a continuous basis. Evaluation of plant conditions is accomplished through the monitoring of plant parameters both from indication in the Control Room and within the plant. Some of the more important plant parameters to be monitored in the Control Room are assembled into a single display location, which is entitled the "Safety Parameter Display System" (SPDS). The SPDS monitors such parameters as: ~~reactor coolant system pressure, reactor or pressurizer water level, containment pressure, suppression pool water level and temperature, reactor power,~~ safety system status, ~~containment radiation level~~ and effluent monitor readings. The instrumentation and equipment capabilities available for each emergency facility are described in Section H.	This revision deletes reference to indications that no longer apply to a permanently shutdown and defueled reactor. References to operating reactor parameters are no longer required. These parameters included reactor coolant system pressure, reactor or pressurizer water level, containment pressure, suppression pool water level and temperature, reactor power, and containment radiation level.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II, Section I.2	2. Onsite Accident Assessment Capabilities <i>The resources available to provide initial and continuing information for accident assessment throughout the course of an event include plant parameter display systems, liquid and gaseous sampling system, Area and Process Radiation Monitoring Systems, and Accident Radiation Monitoring Systems (which includes the high range containment radiation monitors). Descriptions of these systems are given in Section H.5.b.</i>	2. Onsite Accident Assessment Capabilities The resources available to provide initial and continuing information for accident assessment throughout the course of an event include plant parameter display systems, liquid and gaseous sampling system, Area and Process Radiation Monitoring Systems, and Accident Radiation Monitoring Systems (~~which includes the high range containment radiation monitors~~). Descriptions of these systems are given in Section H.5.b.	The step was revised to reflect deletion of the Hi Range Containment Radiation monitors. The monitors for containment serve no EP function for a permanently defueled reactor once the fuel is relocated out of containment to the fuel pool.

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II, Section I.3	3. Source Term Determination <i>Source term (or core damage estimations serve several roles within the Exelon Emergency Preparedness Program. For planning purposes, core damage considerations are used as the bases for several of the Emergency Action Level (EAL) Initiating Conditions and as the threshold for the declaration of a General Emergency (the definition of a General Emergency specifies conditions which involve 'substantial' core degradation or melting as one of the bases for classification).</i> <i>From an implementation perspective, core damage estimations provide a means of realistically differentiating between the four core states (no damage, clad failure, and fuel melt, and vessel melt-through) to:</i> <i>Evaluate the status of the fuel barriers and how their status relates to the risks and possible consequences of the accident.</i> <i>Provide input on core configuration (coolable or uncoolable) for prioritization of mitigating activities.</i>	3. Source Term Determination Source term (or ~~core~~fuel damage estimations serve several roles within the Exelon Emergency Preparedness Program. For planning purposes, ~~core~~fuel damage considerations are used as the bases for several of the Emergency Action Level (EAL) Initiating Conditions and as the threshold for the declaration of a General Emergency (the definition of a General Emergency specifies conditions which involve 'substantial' ~~core~~fuel degradation or melting as one of the bases for classification). From an implementation perspective, ~~core~~fuel damage estimations provide a means of realistically differentiating between ~~the four core states~~ (no damage, clad failure, and fuel melt, ~~and vessel melt-through~~) to: - Evaluate the status of the fuel ~~barriers~~clad and how their status relates to the risks and possible consequences of the accident. - Provide input on ~~core~~fuel configuration (coolable or uncoolable) for prioritization of mitigating activities.	The TMI Emergency Plan is being revised to delete reference to the reactor core Source Term and replacing it with a Fuel source term with respect to core damage estimation. With the permanent shutdown and removal of all fuel from the reactor vessel, the reactor core and containment rad monitors will no longer be available.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	- Determine the potential quality (type) and/or quantity (%) of source term available for release in support of projected offsite doses and protective action recommendations. - Provide information that quantifies the severity of an accident in terms that can be readily understood and visualized. - Support the determination of radiological protective actions that should be considered for long term recovery activities. The assessment methodologies utilized by Three Mile Island Nuclear Station are intended to provide a rapid best estimate of core damage which, when evaluated together, help to develop an overall picture of the extent of core damage. The methods used to estimate the amount or type of core damage occurring under accident conditions includes the following: <u>Containment Radiation Monitors:</u> An indirect method used to determine the amount of core damage. Applicable to Loss of Coolant Accident (LOCA) scenarios. Based upon an end-of-life source term and static nuclide ratio assumptions yielding a limited accuracy. Valid any time following an accident. <u>Core Temperatures:</u> Methods such as Core Exit Thermocouple (CET), Peak Core Temperatures and Hot Leg Temperatures provide indirect methods used to indicate the type and/or amount of core damage. Applicable for all types of accidents. Valid any time following an accident. <u>Core Uncovery:</u> Methods such as Core Uncovery Time, RVLIS Level and Source Range Monitor count rate provide indirect methods used to indicate the type of core damage (clad failure or fuel melt). Applicable for all types of accidents. Provides a relatively accurate estimate of the state of the core early in the event. Valid any time following an accident.	- Determine the potential quality (type) and/or quantity (%) of source term available for release in support of projected offsite doses and protective action recommendations. - Provide information that quantifies the severity of an accident in terms that can be readily understood and visualized. - Support the determination of radiological protective actions that should be considered for long term recovery activities. The assessment methodologies utilized by Three Mile Island Nuclear Station are intended to provide a rapid best estimate of ~~core~~fuel damage which, when evaluated together, help to develop an overall picture of the extent of ~~core~~fuel damage. ~~The methods used to estimate the amount or type of core damage occurring under accident conditions includes the following:~~ ~~Containment Radiation Monitors: An indirect method used to determine the amount of core damage. Applicable to Loss of Coolant Accident (LOCA) scenarios. Based upon an end-of-life source term and static nuclide ratio assumptions yielding a limited accuracy. Valid any time following an accident.~~ ~~Core Temperatures: Methods such as Core Exit Thermocouple (CET), Peak Core Temperatures and Hot Leg Temperatures provide indirect methods used to indicate the type and/or amount of core damage. Applicable for all types of accidents. Valid any time following an accident.~~ ~~Core Uncovery: Methods such as Core Uncovery Time, RVLIS Level and Source Range Monitor count rate provide indirect methods used to indicate the type of core damage (clad failure or fuel melt). Applicable for all types of accidents. Provides a relatively accurate estimate of the state of the core early in the event. Valid any time following an accident.~~	

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	• <u>Containment Hydrogen Concentration</u>: An indirect method used to establish the type of core damage. Applicable to LOCA type accidents where all the hydrogen generated by the metal-water reaction is released into containment. Valid any time following an accident. • <u>Sample Analysis - Isotopic Ratio Comparison</u>: A direct method used to establish the type of core damage. Compares expected isotopic ratios with a sample to determine a general core state. Applicable under all types of accidents. Valid any time following an accident. • <u>Sample Analysis - Presence of Abnormal Isotopes</u>: A direct method used to provide a go/no go indication of fuel melt by the presence of unusually high concentrations of the less volatile fission products. Applicable under all types of accidents. Valid any time following an accident. • <u>Sample Analysis - Concentration Evaluation</u>: A direct method that yields the most accurate numerical estimations of the amount of core damage. Applicable for all types of accidents. Requires the sampled system(s) be in a steady state that usually prevents its use until the plant is in a stable condition.	• ~~<u>Containment Hydrogen Concentration</u>: An indirect method used to establish the type of core damage. Applicable to LOCA type accidents where all the hydrogen generated by the metal-water reaction is released into containment. Valid any time following an accident.~~ • ~~<u>Sample Analysis - Isotopic Ratio Comparison</u>: A direct method used to establish the type of core damage. Compares expected isotopic ratios with a sample to determine a general core state. Applicable under all types of accidents. Valid any time following an accident.~~ • ~~<u>Sample Analysis - Presence of Abnormal Isotopes</u>: A direct method used to provide a go/no go indication of fuel melt by the presence of unusually high concentrations of the less volatile fission products. Applicable under all types of accidents. Valid any time following an accident.~~ • <u>Sample Analysis - Concentration Evaluation</u>: A direct method that yields the most accurate numerical estimations of the amount of core damage. Applicable for all types of accidents. Requires the sampled system(s) be in a steady state that usually prevents its use until the plant is in a stable condition.	
EP-TM-1000 Part II, Section I.4.b	B. <u>Containment Leakage/Failure</u> - This method uses a variety of containment failures or leak rates in conjunction with available source term estimations to develop a release rate to the environment. A direct vent of containment can be modeled as a failure to isolate.	B. ~~<u>Containment Leakage/Failure</u> - This method uses a variety of containment failures or leak rates in conjunction with available source term estimations to develop a release rate to the environment. A direct vent of containment can be modeled as a failure to isolate.~~	The section for Effluent Monitor Data and Dose Projection is being revised to delete reference to Containment Leakage/Failure. With the permanent shutdown of TMI and removal of all fuel from the reactor vessel, the dose projection method which uses containment leakage/failure is no longer applicable to TMI.
EP-TM-1000 Part II, Section J.10.m.1	1) <u>Plant Based PARs</u> <...>These flowcharts and tables provide technically based Protective Action Recommendations based on plant conditions and core damage indicators as applicable to the Exelon site and described within the implementing procedures. Possible plant based PARs	1) <u>Plant Based PARs</u> <...>These flowcharts and tables provide technically based Protective Action Recommendations based on plant conditions and ~~core damage indicators~~ as applicable to the Exelon site and described within the implementing procedures. Possible plant based PARs	This step is revised such that "core damage indicators" would no longer be utilized for Plant Based PARs. This is appropriate for a permanently shutdown and defueled condition.

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	<i>issued by Exelon Nuclear, in support of NUREG-0654 Supp. 3, at a General Emergency could include as appropriate for the Station:</i> • <i>Response to a Rapidly Progressing Severe Accident.</i> • <i>Utilization of the staged evacuation concept as determined by station ETE's.</i> • <i>Shelter of the general public in response to but not limited to; a controlled containment vent lasting less than 1 hour in duration less than PAGs, impediments to evacuation, or Hostile Action event.</i> • <i>Evacuation of the general public.</i> <...>	issued by Exelon Nuclear, in support of NUREG-0654 Supp. 3, at a General Emergency could include as appropriate for the Station: • Response to a Rapidly Progressing Severe Accident. • Utilization of the staged evacuation concept as determined by station ETE's. • Shelter of the general public in response to but not limited to; ~~a controlled containment vent lasting less than 1 hour in duration less than PAGs,~~ impediments to evacuation; or Hostile Action event. • Evacuation of the general public. <...>	This revision also removes the reference to a "controlled containment vent" since this action no longer applies to a permanently shutdown and defueled reactor.
EP-TM-1000 Part II, Section M.1.b	<u>b. Evaluating Entry into Recovery</u> <...><i>The following conditions are guidelines for the determination of establishing Recovery (this is not intended to be a complete list and additional criteria may apply, depending on the specifics of the event):</i> • <...> • <i>The reactor is in a stable shutdown condition and long-term core cooling is available</i> • <i>The fuel pool damage has been mitigated, or spent fuel damage has been contained and controlled.</i> • <i>Primary and/or secondary containment integrity has been established.</i> • <i>Plant systems and equipment are restored and/or replaced such that plant conditions are stable highly unlikely to degrade further. <...></i>	<u>b. Evaluating Entry into Recovery</u> <...>The following conditions are guidelines for the determination of establishing Recovery (this is not intended to be a complete list and additional criteria may apply, depending on the specifics of the event): • <...> • ~~The reactor is in a stable shutdown condition and long-term core cooling is available.~~ • The fuel pool damage has been mitigated, or spent fuel damage has been contained and controlled. • ~~Primary and/or secondary containment integrity has been established.~~ • Plant systems and equipment are restored and/or replaced such that plant conditions are stable highly unlikely to degrade further. <...>	The step for entry conditions for Recovery is being revised to remove reference to the Reactor and primary and secondary containment. These steps are no longer applicable once TMI is permanently shutdown and all fuel is relocated to the fuel pool.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II, Section M.2	2. <i>Recovery Organization</i> <i>Once plant conditions have been stabilized and the Recovery Phase has been initiated, the Emergency Director may form a Recovery Organization for long-term operations. These types of alterations will be discussed with the NRC prior to implementation.</i> • <...> • <i>For events involving major damage to systems required to maintain safe shutdown of the plant and offsite radioactive releases have occurred, (i.e. for Site Area Emergency or General Emergency classifications) the station recovery organization is put in place.</i>	2. Recovery Organization Once plant conditions have been stabilized and the Recovery Phase has been initiated, the Emergency Director may form a Recovery Organization for long-term operations. These types of alterations will be discussed with the NRC prior to implementation. • <...> • For events involving major damage to systems ~~where required to maintain safe shutdown of the plant and~~ offsite radioactive releases have occurred; (i.e. for Site Area Emergency or General Emergency classifications), the station recovery organization is put in place.	This revision deletes reference to systems required to maintain safe shutdown of the plant. With permanent shutdown and all fuel relocated to the fuel pool, the safe shutdown condition as defined by regulatory requirements, no longer applies to TMI.
EP-TM-1000 Part II, Section N.2.e	<u>Health Physics Drills:</u> <i>Health Physics Drills involving a response to, and analysis of, simulated airborne and liquid samples and direct radiation measurements within the plant are conducted semi-annually. At least annually, these drills shall include a demonstration of the sampling system capabilities, or the Core Damage Assessment Methodology (CDAM) objectives as applicable.</i>	<u>Health Physics Drills:</u> Health Physics Drills involving a response to, and analysis of, simulated airborne and liquid samples and direct radiation measurements within the plant are conducted semi-annually. At least annually, these drills shall include a demonstration of the sampling system capabilities, ~~or the Core Damage Assessment Methodology (CDAM) objectives as applicable.~~	This revision removes reference to CDAM from the description of HP Drills. With permanent shutdown and all fuel relocated to the fuel pool, the reference to CDAM is no longer applicable to TMI.
EP-TM-1000 Part II, Section O.4.b	<u>b. Personnel Responsible for Accident Assessment:</u> <i>The skills and knowledge required to perform plant stabilization and mitigation are a normal function of operations specific positions, as identified in Section B of this plan. Power changes and planned and unplanned reactor shutdowns are handled on a normal operation basis. Subsequent plant stabilization and restoration is pursued utilizing normal operating procedures. Licensed Operators receive routine classroom and simulator training to ensure proficiency in this area.</i> <i>1) Active Senior Licensed Control Room Personnel shall have training conducted in accordance with the approved ERO Training Program such that proficiency is maintained on the topics listed below. These subjects shall be covered as a minimum on an annual basis.</i>	<u>b. Personnel Responsible for Accident Assessment:</u> The skills and knowledge required to perform plant stabilization and mitigation are a normal function of operations specific positions, as identified in Section B of this plan. ~~Power changes and planned and unplanned reactor shutdowns are handled on a normal operation basis.~~ Subsequent plant stabilization and restoration is pursued utilizing normal operating procedures. ~~Licensed~~ Qualified Operators receive routine ~~classroom and simulator~~ training to ensure proficiency in this area. 1) ~~Active Senior Licensed~~ Control Room Personnel shall have training conducted in accordance with the approved ERO Training Program such that proficiency is maintained on the topics listed below. These subjects shall be covered as a minimum on an annual basis.	This step is revised to remove reference to power changes and reactor shutdowns from the description Accident Assessment. Also the reference to Simulator Training is removed from the Emergency Plan. The reference to Classroom training was removed so as to not limit the type of training which could be used (i.e., job performance measure, on the job training, etc). With permanent shutdown and all fuel relocated to the fuel pool, the reference to power changes and reactor shutdowns, as well as simulator training, is no longer applicable to TMI.

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
			This step is revised to remove reference to Active Licenses for Control Room personnel. With permanent shutdown and all fuel relocated to the fuel pool, the reference to Active licenses is no longer applicable to TMI.
EP-TM-1000 Part II, Section O.4.b.2	2) <u>Core Damage Assessment Personnel:</u> During an emergency when core/cladding damage is suspected, a specialized group of trained individuals perform core damage assessment. At a minimum, personnel responsible for core damage assessment receive classroom and hands-on training in the following areas: • Available Instrumentation and Equipment • Isotopic Assessment and Interpretation • Computerized Core Damage Assessment Methodology (CDAM) and/or proceduralized assessment methods.	2) ~~Core Damage Assessment Personnel:~~ During an emergency when core/cladding damage is suspected, ~~a specialized group of trained individuals perform core damage assessment. At a minimum, personnel responsible for core damage assessment receive classroom and hands-on training in the following areas:~~ ~~• Available Instrumentation and Equipment~~ ~~• Isotopic Assessment and Interpretation~~ • Computerized Core Damage Assessment Methodology (CDAM) and/or proceduralized assessment methods	This step is revised to remove reference to Core Damage Assessment Personnel and CDAM. With permanent shutdown and all fuel relocated to the fuel pool, the reference to CDAM is no longer applicable to TMI.
EP-TM-1000 Part II, Section O.4.e	Last Paragraph <i>At least 50% of personnel from those departments, who are potential responders to the OSC as Damage Control Team members, are required to be qualified in the use of respiratory protection equipment. This includes in-plant supervision and craft/technicians for the following departments:</i> • Operations • Radiation Protection • Chemistry • Maintenance (mechanical, electrical and I&C)	Last Paragraph At least 50% of personnel from those departments, who are potential responders to the OSC as Damage Control Team members, are required to be qualified in the use of respiratory protection equipment. This includes in-plant supervision and craft/technicians for the following departments: • Operations • Radiation Protection / Chemistry ~~• Chemistry~~ • Maintenance (mechanical, electrical and I&C)	This step revised to combine the Radiation Protection and Chemistry Departments. Due to the reduced staffing for a decommissioned site, there are efficiencies gained with combining RP and Chemistry groups.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II, Section P.2	2. Authority for the Emergency Preparedness Effort <i>The Site Vice President is responsible for the safe and reliable operation of the generating station. The issuance and control of this plan and the activities associated with emergency preparedness at Three Mile Island Nuclear Station shall be the overall responsibility of the Vice President, Fleet Support. This individual is assigned the responsibility for overall implementation of the E-Plan and station Annexes.</i>	2. Authority for the Emergency Preparedness Effort The ~~Site Vice President~~ Plant Manager is responsible for the safe and reliable operation of the ~~generating~~ station. The issuance and control of this plan and the activities associated with emergency preparedness at Three Mile Island Nuclear Station shall be the overall responsibility of the Vice President, Fleet Support. This individual is assigned the responsibility for overall implementation of the E-Plan and station Annex.	This is a change to recognize that once Three Mile Island is permanently shutdown and all fuel is move to the Fuel Pool, the Three Mile Island Site Plant Manager will be the senior Exelon management representative on site and the position of Site Vice President will no longer exist. This revision is contingent on NRC approval of the Three Mile Island License Amendment Request titled "Proposed Changes to Technical Specifications Section 6.0. Removed reference to "generating" since TMI will no longer be generating electricity.
EP-TM-1000 Part II, Section P.3	3. Responsibility for Development and Maintenance of the Plan <...>Fifth Bullet from the bottom * Provide oversight of Drill and Exercise Performance (DEP) evaluations during License Operator Requalification (LOR) Training.	3. Responsibility for Development and Maintenance of the Plan <...>Fifth Bullet from the bottom * Provide oversight of Drill and Exercise Performance (DEP) evaluations during ~~License~~ Operator Requalification (~~LOR~~) Training.	This revision removes references to Licensed Operator Requalification as that term does not apply to a shutdown and permanently defueled condition.
EP-TM-1000 Part II, Section P.6	6.Supporting Emergency Response Plans <i>Other plans that support this E-Plan are:</i> • NUREG-1471, US Nuclear Regulatory Commission, "Concept of Operations: NRC Incident Response" • National Response Framework (NRF), Nuclear/Radiological Incident Annex. • Commonwealth of Pennsylvania Radiological Emergency Response Plan. • INPO Emergency Resources Manual. • <...>	6. Supporting Emergency Response Plans Other plans that support this E-Plan are: • NUREG-1471, US Nuclear Regulatory Commission, "Concept of Operations: NRC Incident Response" • National Response Framework (NRF), Nuclear/Radiological Incident Annex. • Commonwealth of Pennsylvania Radiological Emergency Response Plan. • ~~INPO Emergency Resources Manual.~~ • <...>	The revision reflects deletion of INPO because INPO's oversight would not apply to a permanently shutdown facility.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-TM-1000 Part II, Section P.9	9. Audit/Assessment of the Emergency Preparedness Program <...> <i>Results of this audit are submitted for review to Corporate Management and the Station Vice President. The Emergency Preparedness Manager ensures that any findings that deal with offsite interfaces are reviewed with the appropriate agencies. Written notification will be provided to the state and counties of the performance of the audit and the availability of the audit records for review at Three Mile Island. Records of the audit are maintained for at least five years.</i>	9. Audit/Assessment of the Emergency Preparedness Program <...> Results of this audit are submitted for review to Corporate Management and the ~~Station Vice President~~ Plant Manager. The Emergency Preparedness Manager ensures that any findings that deal with offsite interfaces are reviewed with the appropriate agencies. Written notification will be provided to the state and counties of the performance of the audit and the availability of the audit records for review at Three Mile Island. Records of the audit are maintained for at least five years.	This is a change to recognize that once Three Mile Island is permanently shutdown and all fuel is move to the Fuel Pool, the Three Mile Island Site Plant Manager will be the senior Exelon management representative on site and the position of Site Vice President will no longer exist. This revision is contingent on NRC approval of the Three Mile Island License Amendment Request titled "Proposed Changes to Technical Specifications Section 6.0.
EP-TM-1000 Part III, Appendix 1 References	29. INPO Emergency Resources Manual 30. "Maintaining Emergency Preparedness Manual," dated December, 1996 INPO 96-009. 38. INPO Coordination agreement on emergency information among USCEA, EPRI, INPO, NUMARC and their member utilities, dated April (1988).	~~29. INPO Emergency Resources Manual~~ ~~30. "Maintaining Emergency Preparedness Manual," dated December, 1996 INPO 96-009.~~ ~~38. INPO Coordination agreement on emergency information among USCEA, EPRI, INPO, NUMARC and their member utilities, dated April (1988).~~	The revision reflects deletion of INPO because INPO's oversight would not apply to a permanently shutdown facility.
EP-TM-1000 Part III, Appendix 2 NUREG-0654.II.B Onsite Emergency Organization	<i>EP-AA-112, Emergency Response Organization (ERO) / Emergency Response Facility (ERF) Activation and Operation</i> <i>EP-AA-130, 10 CFR 50 Appendix E, On-Shift Staffing Assessment</i>	EP-AA-112, Emergency Response Organization (ERO) / Emergency Response Facility (ERF) Activation and Operation ~~EP-AA-130, 10 CFR 50 Appendix E, On-Shift Staffing Assessment~~	This revision deletes reference to EP-AA-130, 10 CFR 50 Appendix E, On-Shift Staffing Assessment. This procedure has been previously deleted from the Exelon EP procedures.
EP-TM-1000 Part III, Appendix 3 List of Corporate Letters of Agreements	<...> <i>INPO (Letter on File)</i> <i>Emergency Event Support</i>	<...> ~~INPO (Letter on File)~~ ~~Emergency Event Support~~	The revision reflects deletion of INPO because INPO's oversight would not apply to a permanently shutdown facility.
EP-TM-1000 Part III, Appendix 4	<i>Appendix 4: Glossary of Terms and Acronyms</i> <i>Accident Assessment- Accident assessment consists of a variety of actions taken to determine the nature, effects and severity of an accident and includes evaluation of</i>	Appendix 4: Glossary of Terms and Acronyms Accident Assessment- Accident assessment consists of a variety of actions taken to determine the nature, effects and severity of an accident and includes evaluation of	Some terms are removed from Appendix 4 as noted. Reference to Reactor Operator Status reports are removed from

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	<i>reactor operator status reports damage assessment reports, meteorological observations, seismic observations, fire reports, radiological dose projections, in plant radiological monitoring, and environmental monitoring.</i> <i>Emergency Operating Procedures (EOPs) - EOPs are step-by-step procedures for direct actions taken by licensed reactor operators to mitigate and/or correct an off normal plant condition through the control of plant systems.</i> <i>Emergency Response Data System (ERDS) – ERDS is a continuous direct near real-time electronic data link between the licensee's onsite computer system and the NRC Operations Center that provides for the automated transmission of a limited data set of selected parameters.</i> <i>Fission Product Barrier - The fuel cladding, reactor coolant system boundary, or the containment boundary.</i> <i>High Radiation Sampling System-Post-accident sampling capability to obtain and perform radioisotopic and chemical analyses of reactor coolant and containment atmosphere samples.</i>	~~reactor operator status reports~~ damage assessment reports, meteorological observations, seismic observations, fire reports, radiological dose projections, in plant radiological monitoring, and environmental monitoring. Emergency Operating Procedures (EOPs) - EOPs are step-by-step procedures for direct actions taken by ~~licensed reactor~~ qualified operators to mitigate and/or correct an off normal plant condition through the control of plant systems. ~~Emergency Response Data System (ERDS) – ERDS is a continuous direct near real-time electronic data link between the licensee's onsite computer system and the NRC Operations Center that provides for the automated transmission of a limited data set of selected parameters.~~ ~~Fission Product Barrier – The fuel cladding, reactor coolant system boundary, or the containment boundary.~~ ~~High Radiation Sampling System-Post-accident sampling capability to obtain and perform radioisotopic and chemical analyses of reactor coolant and containment atmosphere samples.~~	the definition of Accident Assessment. The Reactor Operator and the associated status reports are no longer present in a permanently shutdown condition. This revision removes reference to licensed reactor operators, which are no longer required for a permanently shutdown and defueled plant. The revision deletes reference to ERDS. Following permanent shutdown and defueling of the reactor, ERDS is not required. (reference Memorandum from NSIR to Regions dated June 2, 2014, accession number ML14099A520) This has been discussed with the States of Pennsylvania and they have concurred that they will no longer need ERDS once the station is permanently shutdown and defueled. Fission product barrier is not applicable in permanently shutdown and defueled condition. The reference to the High Radiation Sampling System is deleted since the System applies to sampling of reactor coolant and containment atmosphere. These samples will not be utilized in a permanently shutdown and defueled condition.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	<i>Puff release - A controlled containment vent that will be terminated prior to exceeding 60 minutes in duration and is less than the limit as defined in the Station Annex.</i> <i>Source Term - Radioisotope inventory of the reactor core, or amount of radioisotope released to the environment, often as a function of time.</i> <i>Technical Support Center (TSC) - A center outside of the Control Room in which information is supplied on the status of the plant to those individuals who are knowledgeable or responsible for engineering and management support of reactor operations in the event of an emergency, and to those persons who are responsible for management of the on-site emergency response.</i> <i>Vital Areas - Areas within the station security fence which contain vital equipment. Examples include Control Rooms, Containment/Reactor Buildings, Turbine Buildings and Electrical Equipment Rooms.</i>	~~<i>Puff release - A controlled containment vent that will be terminated prior to exceeding 60 minutes in duration and is less than the limit as defined in the Station Annex.</i>~~ Source Term - Radioisotope inventory ~~of the reactor core~~, or amount of radioisotope released to the environment, often as a function of time. Technical Support Center (TSC) - A center outside of the Control Room in which information is supplied on the status of the plant to those individuals who are knowledgeable or responsible for engineering and management support of ~~reactor~~ site operations in the event of an emergency, and to those persons who are responsible for management of the on-site emergency response. Vital Areas - Areas within the station security fence which contain vital equipment. Examples include Control Rooms, ~~Containment~~/Reactor Buildings, Turbine Buildings and Electrical Equipment Rooms.	Puff Release is not applicable in permanently shutdown and defueled condition. Reactor core is not applicable to permanently defueled condition. This revision removes reference to reactor operations which are not applicable to a permanently shutdown and defueled condition. This revision removes reference to containment being a vital area as this is not applicable to a permanently shutdown and defueled condition.
EP-TM-1000 Part III, Appendix 4 Appendix 4: Glossary of Terms and Acronyms	<u>Acronyms : (selected)</u> <i>INPO – Institute of Nuclear Power Operations</i> <i>LOCA – Loss of Coolant Accident</i> <i>SAMG – Severe Accident Management Guidelines</i> <i>STA – Shift Technical Advisor</i>	<u>Acronyms : (selected)</u> ~~<i>INPO – Institute of Nuclear Power Operations</i>~~ ~~<i>LOCA – Loss of Coolant Accident</i>~~ ~~<i>SAMG – Severe Accident Management Guidelines</i>~~ ~~<i>STA – Shift Technical Advisor</i>~~	These Acronyms are not referenced/utilized in the TMI Emergency Plan and are being removed.

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Summary of Changes to Three Mile Island Emergency Plan

EP-AA-1009 – Radiological Emergency Plan Annex for Three Mile Island (TMI) Station

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-AA-1009	Note: This table provides a summary of changes to EP-AA-1009, Radiological Emergency Plan Annex for Three Mile Island Station.		
EP-AA-1009 Annex	There are multiple editorial changes that are proposed in this license amendment request, i.e., they do not change the intent of the document. They do not impact the ability to comply with Regulatory Guidance or level of commitments made in the Emergency Plan. These changes are marked with revision bars within the Emergency Plan (except changes to step numbers); however, they are not specifically evaluated in the change assessment, since they are editorial. These include: • Changes in step numbers as a result of information which has been relocated or deleted. • Changes in step numbers as a result of information which has been relocated or deleted. • Page number changes within the Table of Contents • Correction of spelling errors • Changes in Revision numbering and Revision History • Changes which reference the Exelon fleet are revised to specify Three Mile Island only.		
EP-AA-1009 Annex Section 1.1; Facility Description	<i>TMI Unit 1 is operated by Exelon Nuclear. The TMI Unit #1 is an 870 Mwe, pressurized water type, nuclear steam supply system supplied by Babcock & Wilcox Company.</i>	TMI Unit 1 is operated by Exelon Nuclear. The TMI Unit #1 ~~is~~ was an 870 Mwe, pressurized water type, nuclear steam supply system supplied by Babcock & Wilcox Company. The unit is permanently defueled.	This revision recognizes the permanently defueled condition for TMI.
EP-AA-1009 Annex Section 2; Organizational Control of Emergencies	<i>This section describes the Emergency Response Organization (ERO) and its key positions. It outlines the staffing requirements which provide initial emergency response actions and provisions for timely augmentation of on-shift personnel when required. It also describes interfaces among Exelon Nuclear emergency response personnel and specifies the offsite support available to respond to the nuclear generating stations.</i>	This section describes the Emergency Response Organization (ERO) and its key positions. It outlines the staffing requirements which provide initial emergency response actions and provisions for timely augmentation of on-shift personnel when required. It also describes interfaces among Exelon Nuclear emergency response personnel and specifies the offsite support available to respond to the nuclear ~~generating~~ stations.	This change reflects that TMI is no longer an electricity generating station once the reactor is permanently shutdown.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-AA-1009 Annex Section 2.1, <u>Shift Organization Staffing</u>	2.1.3 <u>Shift Technical Advisor (STA) / Incident Assessor</u> <i>The responsibilities of the STA are delineated on OP-AA-101-111, "Roles and Responsibilities of On-Shift Personnel." If the STA is the Shift Manager or Unit Supervisor, then another Senior Reactor Operator (SRO) shall assist as Incident Assessor during unexpected conditions and transients.</i>	2.1.3 ~~DELETED Shift Technical Advisor (STA) / Incident Assessor~~ ~~<i>The responsibilities of the STA are delineated on OP-AA-101-111, "Roles and Responsibilities of On-Shift Personnel." If the STA is the Shift Manager or Unit Supervisor, then another Senior Reactor Operator (SRO) shall assist as Incident Assessor during unexpected conditions and transients.</i>~~	This deletion removes reference to Shift Technical Advisor / Incident Assessor. The STA/IA function for a permanently shutdown and defueled reactor is no longer required. EP functional requirements for Technical Support will be performed by CRS/CFH. Reference TMI License Amendment Request – Proposed Changes to Technical Specifications Section 6.0 Administrative Controls for Permanently Defueled Condition dated November 10, 2017
EP-AA-1009 Annex Section 2.2, <u>Emergency Response Organization</u>	2.2 <i>Emergency Response Organization (ERO) Staffing</i> <i>In the Three Mile Island (TMI) Station Radiological Emergency Plan, EP-TM-1000, Figures TMI B-1a through TMI B-1d illustrate the overall emergency response organization. EP-TM-1000, Table TMI B-1, Minimum Staffing Requirements, provides a comparison against the Exelon Nuclear Radiological Emergency Plan of 60-minute and full augmentation commitments. An illustration of the overall Exelon ERO command structure is provided in EP-TM-1000, Figure TMI B-1a.</i>	2.2 <i>Emergency Response Organization (ERO) Staffing</i> In the Three Mile Island (TMI) Station Radiological Emergency Plan, EP-TM-1000, Figures TMI B-1a through TMI B-1d illustrate the overall emergency response organization. EP-TM-1000, Table TMI B-1, Minimum Staffing Requirements, provides a comparison against the Exelon Nuclear Radiological Emergency Plan of 60-minute and ~~full augmentation~~90-minute commitments. An illustration of the overall Exelon ERO command structure is provided in Figures TMI B-1a - d in EP-TM-1000, Figure TMI B-1a.	Figures TMI B-1a – d have been relocated to EP-TM-1000, Three Mile Island (TMI) Station Radiological Emergency Plan. EP-TM-1000, Table TMI B-1, Minimum Staffing Requirements, provides a comparison against the Exelon Nuclear Radiological Emergency Plan of 60-minute and full augmentation90-minute commitments. An illustration of the overall Exelon ERO command structure is provided in Figures TMI B-1a - d in EP-TM-1000.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-AA-1009 Annex Section 2.2.1, <u>Emergency Onsite Organization</u>	<u>2.2.1 Emergency Onsite Organization (Figure TMI B-1b)</u> No changes in augmentation positions or staffing levels for the Technical Support Center (TSC) and Operations Support Center (OSC) from that specified in the Three Mile Island (TMI) Station Radiological Emergency Plan.	~~2.2.1 Emergency Onsite Organization (Figure TMI B-1b)~~ ~~No changes in augmentation positions or staffing levels for the Technical Support Center (TSC) and Operations Support Center (OSC) from that specified in the Three Mile Island (TMI) Station Radiological Emergency Plan.~~	Figures TMI B-1a – d have been relocated to EP-TM-1000, Three Mile Island (TMI) Station Radiological Emergency Plan. EP-TM-1000, Table TMI B-1, Minimum Staffing Requirements, provides a comparison against the Exelon Nuclear Radiological Emergency Plan of 60-minute and full augmentation90-minute commitments. An illustration of the overall Exelon ERO command structure is provided in Figures TMI B-1a - d in EP-TM-1000.
EP-AA-1009 Annex Section 2.2.2, <u>Emergency Offsite Organization (</u>	<u>2.2.2 Emergency Offsite Organization (Figure TMI B-1c)</u> Based on existing interface and staffing agreements, representatives from the Commonwealth of Pennsylvania will respond to the Emergency Operations Facility (EOF), allowing direct face-to-face communications. As such, the State Environs Communicator position, listed under the Three Mile Island (TMI) Station Radiological Emergency Plan, is not staffed at the Coatesville EOF. Rather the EOF Environmental Coordinator will interface directly with State representatives present in the EOF. An Operations Assistant has been added to augment EOF staffing and provide TMI specific Operations knowledge in support of the existing Technical Support Manager and Operations Advisor positions.	~~2.2.2 Emergency Offsite Organization (Figure TMI B-1c)~~ ~~Based on existing interface and staffing agreements, representatives from the Commonwealth of Pennsylvania will respond to the Emergency Operations Facility (EOF), allowing direct face-to-face communications. As such, the State Environs Communicator position, listed under the Three Mile Island (TMI) Station Radiological Emergency Plan, is not staffed at the Coatesville EOF. Rather the EOF Environmental Coordinator will interface directly with State representatives present in the EOF.~~ ~~An Operations Assistant has been added to augment EOF staffing and provide TMI specific Operations knowledge in support of the existing Technical Support Manager and Operations Advisor positions.~~	Figures TMI B-1a – d have been relocated to EP-TM-1000, Three Mile Island (TMI) Station Radiological Emergency Plan. EP-TM-1000, Table TMI B-1, Minimum Staffing Requirements, provides a comparison against the Exelon Nuclear Radiological Emergency Plan of 60-minute and full augmentation90-minute commitments. An illustration of the overall Exelon ERO command structure is provided in Figures TMI B-1a - d in EP-TM-1000.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-AA-1009 Annex Section 2.2.3, <u>Emergency Public Information Organization</u>	2.2.3 <u>Emergency Public Information Organization (Figure TMI B-1d)</u> No changes in augmentation positions or staffing levels for the Joint Information Center (JIC)) and Emergency News Center (ENC) from that specified in the Three Mile Island (TMI) Station Radiological Emergency Plan.	~~2.2.3 <u>Emergency Public Information Organization (Figure TMI B-1d)</u>~~ ~~No changes in augmentation positions or staffing levels for the Joint Information Center (JIC)) and Emergency News Center (ENC) from that specified in the Three Mile Island (TMI) Station Radiological Emergency Plan.~~	Figures TMI B-1a – d have been relocated to EP-TM-1000, Three Mile Island (TMI) Station Radiological Emergency Plan. EP-TM-1000, Table TMI B-1, Minimum Staffing Requirements, provides a comparison against the Exelon Nuclear Radiological Emergency Plan of 60-minute and full augmentation90-minute commitments. An illustration of the overall Exelon ERO command structure is provided in Figures TMI B-1a - d in EP-TM-1000.
EP-AA-1009 Annex Section 2.4.1; <u>Miscellaneous Organizations</u>	• Other utilities • Institute for Nuclear Power Operations (INPO) • American Nuclear Insurers (ANI) • AREVA • Aviation services	• Other utilities • ~~Institute for Nuclear Power Operations (INPO)~~ • American Nuclear Insurers (ANI) • AREVA • Aviation services	This revision reflects that TMI will no longer be a member of INPO in a permanently defueled condition.
EP-AA-1009 Annex Section 4 4.2.2 <u>Source Term Determination</u>	4.2.2 Source Term Determination Should the effluent radiation monitors be off-scale or otherwise inoperable, assessment of releases and off-site exposure would be made using the containment monitor readings, point of release grab samples, and pathway samples. A detailed core damage assessment methodology has been established under Section 6.0 of the TMI Technical Support Center Calculation Guides. The process used is based on measured physical and chemical parameters that occur in the plant when the core is damaged. Three (3) methods have been developed under Section 6.0 of the TMI Technical Support Center Calculation Guides (per TDR 431) to determine core damage estimates:	4.2.2 Source Term Determination Should the effluent radiation monitors be off-scale or otherwise inoperable, assessment of releases and off-site exposure would be made using the ~~containment monitor readings~~, point of release grab samples, and pathway samples. ~~A detailed core damage assessment methodology has been established under Section 6.0 of the TMI Technical Support Center Calculation Guides. The process used is based on measured physical and chemical parameters that occur in the plant when the core is damaged. Three (3) methods have been developed under Section 6.0 of the TMI Technical Support Center Calculation Guides (per TDR 431) to determine core damage estimates:~~	This revision deletes reference to Core Damage Assessment personnel and CDAM. With permanent shutdown and all fuel relocated to the fuel pool, the reference to CDAM is no longer applicable to TMI.

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Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	1. In-core thermocouple temperature correlations to fuel conditions; 2. Radiation monitor and hydrogen production correlations based on fuel and plant system conditions; and 3. Chemical measurement correlations based on radionuclide inventory released into reactor coolant during core damage. Throughout each emergency situation, continuing assessment will occur. Assessment actions at Three Mile Island Station may include an evaluation of plant conditions; in-plant, onsite, and initial offsite radiological measurements; and initial estimates of offsite doses. Core damage information is used to refine dose assessments and confirm or extend initial protective action recommendations. Three Mile Island Station utilizes WCAP-14696-A, Revision 1, (1999) as the basis for this methodology of post-accident core damage assessment. This methodology utilizes real-time plant indications. In addition, Three Mile Island Station may use samples of plant fluids and atmospheres as inputs to the CDAM (Core Damage Assessment Methodology) program for core damage estimation.	~~1. In-core thermocouple temperature correlations to fuel conditions;~~ ~~2. Radiation monitor and hydrogen production correlations based on fuel and plant system conditions; and~~ ~~3. Chemical measurement correlations based on radionuclide inventory released into reactor coolant during core damage.~~ ~~Throughout each emergency situation, continuing assessment will occur. Assessment actions at Three Mile Island Station may include an evaluation of plant conditions; in-plant, onsite, and initial offsite radiological measurements; and initial estimates of offsite doses. Core damage information is used to refine dose assessments and confirm or extend initial protective action recommendations. Three Mile Island Station utilizes WCAP-14696-A, Revision 1, (1999) as the basis for this methodology of post-accident core damage assessment. This methodology utilizes real-time plant indications. In addition, Three Mile Island Station may use samples of plant fluids and atmospheres as inputs to the CDAM (Core Damage Assessment Methodology) program for core damage estimation.~~	
EP-AA-1009 Annex Section 4 4.5 Severe Accident Management	4.5 Severe Accident Management Accident management consists of those actions taken during the course of an accident, by the Emergency Response Organization (ERO), specifically: plant operations, technical support, and plant management staff in order to: • Prevent the accident from progressing to core damage; • Terminate core damage once it begins; • Maintain the capability of the containment as long as possible; and • Minimize on-site and off-site releases and their effects. The later three actions constitute a subset of accident	~~4.5 Severe Accident Management~~ ~~Accident management consists of those actions taken during the course of an accident, by the Emergency Response Organization (ERO), specifically: plant operations, technical support, and plant management staff in order to:~~ ~~• Prevent the accident from progressing to core damage;~~ ~~• Terminate core damage once it begins;~~ ~~• Maintain the capability of the containment as long as possible; and~~ ~~• Minimize on-site and off-site releases and their effects.~~ ~~The later three actions constitute a subset of accident~~	This revision deletes need for accident management using SAMGs by the ERO since the four (4) actions are no longer possible at a plant in a permanently defueled condition.

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
	management, referred to as Severe Accident Management (SAM) or severe accident mitigation. The Severe Accident Management Plan Procedures (SAMPs) provide sound technical strategies for maximizing the effectiveness of equipment and personnel in preventing, mitigating and terminating severe accidents. Implementation of SAMPs is a collaborative effort between the Shift Manager and the Station Emergency Director in the TSC (once activated). The Station Emergency Director maintains ultimate responsibility for direction of mitigating strategies. Designated TSC personnel are also trained to assist in evaluating plant conditions using the SAM Technical Support Guidelines (TSG).	management, referred to as Severe Accident Management (SAM) or severe accident mitigation. The Severe Accident Management Plan Procedures (SAMPs) provide sound technical strategies for maximizing the effectiveness of equipment and personnel in preventing, mitigating and terminating severe accidents. Implementation of SAMPs is a collaborative effort between the Shift Manager and the Station Emergency Director in the TSC (once activated). The Station Emergency Director maintains ultimate responsibility for direction of mitigating strategies. Designated TSC personnel are also trained to assist in evaluating plant conditions using the SAM Technical Support Guidelines (TSG).	
EP-AA-1009 Annex Section 5 5.2.1.2 Containment Radiation Monitors	5.2.1.2 Containment Radiation Monitors: Post accident radiation levels in containment are monitored by two channels of fully qualified high range area monitors. These monitors are ion chamber detectors and are designed to withstand a LOCA. Readout modules are located for these detectors on the radiation monitoring panel in the control room. The set points on this monitor could be used to indicate to the operator that the Emergency Action Levels (EALs) were reached under the Fission Product Barrier loss matrix provided in Section 3.	5.2.1.2 DELETED~~Containment Radiation Monitors:~~ ~~Post accident radiation levels in containment are monitored by two channels of fully qualified high range area monitors. These monitors are ion chamber detectors and are designed to withstand a LOCA. Readout modules are located for these detectors on the radiation monitoring panel in the control room.~~ ~~The set points on this monitor could be used to indicate to the operator that the Emergency Action Levels (EALs) were reached under the Fission Product Barrier loss matrix provided in Section 3.~~	Removed reference to high range radiation monitors. These ARMs are located inside containment and will not be utilized once the station is permanently shutdown and defueled.
EP-AA-1009 Annex Section 5 5.2.1.4 Liquid Radiation Monitoring	4. Liquid Radiation Monitoring The liquid radiation monitoring subsystem is comprised of monitors, each of which has a sampler, detector, and Control Room ratemeter module (exceptions are the IWTS/IWFS discharge monitor, waste treatment system discharge monitor and the turbine building sump pump). The monitors provide visual indications in the Control Room. The TMI-1 Primary Coolant Letdown monitor also contains a high range channel.	4. Liquid Radiation Monitoring The liquid radiation monitoring subsystem is comprised of monitors, each of which has a sampler, detector, and Control Room ratemeter module (exceptions are the IWTS/IWFS discharge monitor, waste treatment system discharge monitor and the turbine building sump pump). The monitors provide visual indications in the Control Room. ~~The TMI-1 Primary Coolant Letdown monitor also contains a high range channel.~~	Removed reference to the TMI-1 Primary Coolant Letdown monitor. The primary coolant letdown system will no longer be utilized once the station is permanently shutdown and defueled.

Attachment 2: Tabular Summary of Changes to Three Mile Island Emergency Plan

Emergency Plan Section	Current Wording	Proposed Wording	Reason for Change
EP-AA-1009 Annex Section 5 5.2.1.5 Post-Accident Sampling System (PASS)	5. <i>Post Accident Sampling System (PASS)</i> <i>Liquid Reactor Coolant System Post Accident Sample System (PASS) samples may be taken from the pressurizer and decay heat and reactor coolant letdown systems. Liquid samples may be analyzed for isotopic concentration, boron concentration, chloride concentration and dissolved gases.</i> <i>The Containment Atmosphere Post Accident Sampling System (CATPASS) is used to sampling isotopic concentration in the containment atmosphere. MAP-5 microprocessor stations sample iodine and particulates in condenser off-gas and auxiliary and reactor building exhausts</i>	~~5. <i>Post Accident Sampling System (PASS)</i>~~ ~~<i>Liquid Reactor Coolant System Post Accident Sample System (PASS) samples may be taken from the pressurizer and decay heat and reactor coolant letdown systems. Liquid samples may be analyzed for isotopic concentration, boron concentration, chloride concentration and dissolved gases.</i>~~ ~~<i>The Containment Atmosphere Post Accident Sampling System (CATPASS) is used to sampling isotopic concentration in the containment atmosphere. MAP-5 microprocessor stations sample iodine and particulates in condenser off-gas and auxiliary and reactor building exhausts</i>~~	The Post-Accident Sampling System will no longer be utilized once the station is permanently shutdown and defueled, since the Pressurizer and primary piping systems will be drained. The Containment Atmosphere Post-Accident Sampling System will no longer be utilized once the station is permanently shutdown and defueled.
EP-AA-1009 Annex Section 5 5.5.5.1 Alarms	1. <i>Alarms</i> <i>Audible alarms are a quick and effective means of communicating emergency warnings on the site. Alarms currently installed at TMI include:</i> <i>Station Emergency Alarm</i> <i>Fire Alarm</i> <i>Reactor Building Evacuation Alarm</i> <i>Each alarm provides a distinctive sound that all site personnel and contractors are trained to recognize and respond to. The Station Emergency Alarm will be followed by an announcement that provides emergency information such as class of emergency declared, accountability directions, radiological precautions, etc. At TMI 1, the Reactor Building evacuation alarm is supplemented with flashing lights at specific locations in the Reactor Building to provide both audible and visual warnings.</i>	1. <i>Alarms</i> Audible alarms are a quick and effective means of communicating emergency warnings on the site. Alarms currently installed at TMI include: - Station Emergency Alarm - Fire Alarm ~~Reactor Building Evacuation Alarm~~ Each alarm provides a distinctive sound that all site personnel and contractors are trained to recognize and respond to. The Station Emergency Alarm will be followed by an announcement that provides emergency information such as class of emergency declared, accountability directions, radiological precautions, etc. ~~At TMI 1, the Reactor Building evacuation alarm is supplemented with flashing lights at specific locations in the Reactor Building to provide both audible and visual warnings.~~	This revision deletes reference to Reactor Building Evacuation Alarm. With permanent shutdown and all fuel relocated to the fuel pool, the need for a RBE Alarm is no longer applicable to TMI.

Attachment 3

**Three Mile Island Nuclear Station
Proposed Revision to Site Radiological Emergency Plan**

Exhibit A

Three Mile Island Radiological Emergency Plan
(Procedure EP-TM-1000)
(Marked-up Version)

EXELON NUCLEAR

THREE MILE ISLAND (TMI) STATION

RADIOLOGICAL EMERGENCY PLAN

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STATION ANNEX

The Station Annex subject to the requirements of this plan is as follows:

EP-AA-1009: Radiological Emergency Plan Annex for Three Mile Island Station

REVISION HISTORY

<u>REVISION</u>	<u>EFFECTIVE DATE</u>
0	March 2018
X	TBD 2019

<u>REVISION</u>	<u>EFFECTIVE DATE</u>

Section A: Purpose

As required in the conditions set forth by the Nuclear Regulatory Commission (NRC) for the operating licenses for the Exelon Nuclear Stations, the management of Exelon recognizes its responsibility and authority to operate and maintain the nuclear power stations in such a manner as to provide for the safety of the general public. This document describes the Three Mile Island Station Emergency Preparedness Program. The philosophy that guides the development and maintenance of this program is the protection of the health and safety of the general public in the communities around Three Mile Island Nuclear Station and the personnel who work at the plant.

The Three Mile Island Station Radiological Emergency Plan (E-Plan) establishes the concepts, evaluation and assessment criteria, and protective actions that are necessary in order to limit and mitigate the consequences of potential or actual radiological emergencies. It has been prepared to establish the procedures and practices for management control over unplanned or emergency events that may occur at Three Mile Island Nuclear Station. It also provides the necessary pre-arrangements, directions and organization so that all nuclear emergencies can be effectively and efficiently resolved.

The Three Mile Island Station Emergency Preparedness Program consists of the E-Plan, the Station Annex, emergency plan implementing procedures, and associated program administrative documents. The Three Mile Island Station E-Plan outlines the basis for response actions that would be implemented in an emergency. This document is not intended to be used as a procedure.

The Three Mile Island Station Annex contains information and guidance that are unique to the station. The annex addresses site-specific criteria, including:

- Emergency Action Levels (EALs) located in Addendum 3 to the Annex,
- Deviations from the E-Plan (such as station specific on-shift staffing, unique aspects of ERO augmentation, and so forth).
- Facility geography and location for a full understanding and representation of the station's emergency response capabilities.
- Plant specific facilities and equipment associated with the Emergency Preparedness Program.

The Station Annex and its Addendums become a part of the plan and is subject to the same review and audit requirements as the plan. In the areas where a Station Annex deviates from the general requirements of the E-Plan, the Station Annex shall serve as the controlling document.

Detailed E-Plan implementing procedures are maintained separately and are used to guide those responsible for implementing emergency actions.

Section B: Background

In the context of this E-Plan, the Station Annex, and implementing procedures, Exelon Nuclear manages the operations of the NRC licensed facility designated as Three Mile Island Nuclear Station, henceforth known as Three Mile Island (TMI).

The primary hazard consideration at the nuclear power station is the potential unplanned release of radioactive material resulting from an accident. The probability of such a release is considered very low due to plant design and strict operational guidelines enforced by the NRC. Notwithstanding, federal regulations require that a solid emergency preparedness program exist for each commercial nuclear power station. A detailed description of Three Mile Island is given in the Updated Final Safety Analysis Report (UFSAR).

In order to minimize the number of ad-hoc decisions made during an emergency and to ensure that necessary equipment, supplies, and essential services are available to meet the needs of an emergency, Exelon Nuclear has developed this E-Plan for Three Mile Island Nuclear Station. The E-Plan considers the consequences of radiological emergencies, as required by 10 CFR 50, Paragraph 50.47 and Appendix E.

Additionally, the E-Plan addresses guidance and adheres to the intent of the criteria established and provided within NUREG-0654. The E-Plan also considers the consequences of non-radiological emergencies.

Section C: Scope

This document describes actions to be taken in the event of a radiological accident at Three Mile Island that may impact the health and safety of the general public or station employees. It also serves to limit the damage to facilities and property, and provide for the restoration of such facilities in the event of an emergency. If such an accident were to occur, the Emergency Response Organization (ERO) would be put in place and maintained until such time where the plant is returned to a stable condition and the threat to the general public or station personnel no longer exists. This plan describes the functions and operation of the ERO, including assignments of authority and responsibility. It does not, nor is it intended to, provide guidance for actual plant equipment manipulations. These instructions are contained in site-specific normal and emergency operating procedures as required by Technical Specifications and other regulatory guidance. The E-Plan provides for: identification and evaluation of emergency situations, protective measures, communications, coordination and notification of governmental authorities, document review and control, emergency preparedness assessment, and training of all emergency personnel. An emergency recovery phase is also described in this E-Plan.

Section D: Planning Basis

The E-Plan, in conjunction with the Station Annex and implementing and administrative procedures, documents the methods by which the Three Mile Island Emergency Preparedness Program meets the planning standards set forth in 10 CFR 50.47(b) and the requirements of 10 CFR 50 Appendix E. Development of the E-Plan was based on NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants".

Acceptable alternate methods, which deviate from NUREG-0654, are allowed under Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors." However, deviations will be documented in the Station Annex and evaluated as continuing to meet the Planning Standards of 10 CFR 50.47(b) and Appendix E to 10 CFR 50 under the 10 CFR 50.54(q) process to ensure the continued effectiveness of the E-Plan and Station Annex.

Other applicable regulations, publications, and guidance were used (see Appendix 1, "References") along with site-specific documents to ensure consistency in the planning effort.

Section E: Contiguous-Jurisdiction Governmental Emergency Planning

The E-Plan recognizes the state, in cooperation with the local EPZ communities, as the overall authority responsible for protective action directives in order to protect the health and safety of the general public.

Section F: Integrated Emergency Planning

State and local (county level) emergency response plans were utilized in the development of this plan to ensure a consistent and integrated response to a classified event.

Section G: Funding and Technical Assistance

Exelon Nuclear is dedicated to providing the level of support necessary, as dictated by federal regulation, to ensure appropriate integration of the state, county, and utility radiological emergency programs.

Section H: Emergency Response Organization

Exelon Nuclear acknowledges its primary responsibility for planning and implementing emergency measures within the site boundary and for overall plant accident assessment. These emergency measures include corrective actions, protective measures, and aid for personnel onsite. To accomplish these responsibilities, advance arrangements have been made with offsite organizations for special emergency assistance such as ambulance, medical, hospital, fire, and police services.

Section I: Federal Response

Provisions are made within the E-Plan for the integration of appropriate elements of the federal assistance activities. Arrangements have been made to accommodate a federal response organization presence at the Exelon Nuclear emergency response facilities as well as support communications between utility and federal emergency facilities. NRC response as described in NUREG-1471, "Concept of Operations: NRC Incident Response", was used in the development of the E-Plan as guidance to ensure coordination between Exelon Nuclear and NRC EROs.

Section J: Form and Content of Plan

As required by federal regulations, the E-Plan is governed by and contained (or referenced) in the Station UFSAR. The E-Plan is administratively maintained as a separate document. The E-Plan has been formatted similar to NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants." The use of this format lends itself to uncomplicated comparison with the criteria set forth in NUREG-0654/FEMA-REP-1.

Appendix 2, "Procedure Cross-Reference to NUREG-0654", provides a cross-reference between the NUREG-0654 evaluation criteria and the E-Plan implementing procedures and applicable administrative documents.

Required Content of the Station Annex

Information that is in the plan need not be restated in the Annex. The Annex shall address what means, methods, and resources are used to satisfy the requirements and responsibilities set forth in the E-Plan.

Annex Format and Specific Content: As a minimum, the Station Annex shall address the areas described as follows:

1. Section 1: Introduction

The station and surrounding area are described by the inclusion of maps, drawings and/or diagrams. A summary statement describes the Annex's interface with the E-Plan.

2. Section 2: Organizational Control of Emergencies

The agencies with which the station has independent agreements for support during an emergency are provided. Station specific differences from the E-Plan, such as on-shift staffing or ERO augmentation, shall be outlined. The justification for differences shall be provided as required under 50.54(q) documentation.

3. Section 3: Classification of Emergencies

The Classification levels are described in this Section. Note that the Site Specific EALs are located in Addendum 3 to the Annex and are included for all emergency classes for the purpose of event classification.

4. Section 4: Emergency Measures

Maps indicating the location of Assembly Areas, site evacuation routes, and centers for the monitoring of evacuated nonessential personnel are included. Roadway/traffic control measures of roads under control of the station are addressed.

5. Section 5: Emergency Facilities and Equipment

- Descriptions of the station Control Room, Technical Support Center and Operational Support Center are provided.
- A description of the specific equipment is provided.
- A description of the capability and resources available to categorize accidents.

Section A: Assignment of Responsibility

This section describes the primary responsibilities and organizational control of Exelon, federal, state, county, and other emergency response organizations within the Plume Exposure Pathway and the Ingestion Pathway Emergency Planning Zones (EPZs). Various supporting organizations are also described as well as staffing for initial and continuous response.

1. Concept of Operations

The relationships and the concept of operations for the organizations and agencies who are a part of the overall ERO are as follows:

- a. Identified below are federal, state, and county organizations that are involved in a response to an emergency at Three Mile Island.

- 1) Federal Agencies: The National Response Framework (NRF), Nuclear/Radiological Incident Annex outlines the statutory and regulatory responsibilities. The primary federal response for supporting an emergency at an Exelon station include:

- a) Nuclear Regulatory Commission (NRC): The NRC is responsible for licensing and regulating nuclear facilities and materials and for conducting research in support of the licensing and regulatory process. These responsibilities include protecting the public health and safety, protecting the environment, protecting and safeguarding materials and plants in the interest of national security and assuring conformity with antitrust laws.

The NRC Regional Office has the responsibility for auditing of nuclear power stations. It is responsible for ensuring that such activities are conducted in accordance with the terms and conditions of such NRC licenses and that as a result of such operations, there is no undue risk to the health and safety of the public.

The NRC Office of Nuclear Reactor Regulation, established by the Energy Reorganization Act of 1974, as amended, performs licensing functions associated with the construction and operation of nuclear reactors and with the receipt, possession, ownership, and use of special nuclear and byproduct materials used at reactor facilities.

With regard to emergency preparedness, the NRC shall:

- Assess licensee emergency plans for adequacy;
- Review the Federal Emergency Management Agency findings and determinations on the adequacy and capability of implementation of state and local plans; and
- Make decisions with regard to the overall state of emergency preparedness and issuance of operating licenses.

The NRC shall respond to incidents at licensed facilities or vehicular accidents involving licensed materials, including radionuclides, in transit. The NRC shall act as the lead Federal agency with regard to technical matters during a nuclear incident including radiological assistance. The NRC shall be prepared to recommend appropriate protective actions for the public and technical actions to the licensee. FEMA shall act as the lead Federal agency for offsite, non-technical concerns.

During an incident, the Chairman of the Commission is the senior NRC authority for all aspects of a response. The Chairman shall transfer control of emergency response activities to the Director of Site Operations when deemed appropriate by the Chairman.

All NRC Regions as well as Headquarters are prepared to respond to potential emergencies. All Regions and Headquarters have developed plans and procedures for responding to radiological incidents involving NRC licensees. Headquarters has developed the NRC Incident Response Plans and Implementing Procedures. Each NRC Region has developed Regional Supplements that detail how the Region will fulfill all of the responsibilities assigned in the NRC Incident Response Plan. All NRC organizations are responsible for maintaining an effective state of preparedness through periodic training, drills and exercises.

Each Region and Headquarters have established and maintain an Incident Response Center designed to centralize and coordinate the emergency response function. Adequate communications are established to link the licensee, Headquarters and the Region. The NRC has established lines of communications with local government, state government, other Federal agencies, Congress and the White House. Public information will be disseminated in a timely manner and periodically.

Each Region is prepared to send a team of qualified specialists to the scene expeditiously. All of the necessary supplies and equipment needed for emergency response will be provided and maintained by the NRC.

The NRC Incident Response Plan objectives are to provide for protection of the public health and safety, property, and the environment, from the effects of radiological incidents that may occur at licensed facilities or which involve licensed materials, including radio-nuclides in transit.

The objectives of the agency plan set forth the organizational and management concepts and responsibilities needed to assure that NRC has an effective emergency response program.

The plan is intended to ensure NRC preparedness:

- To receive and evaluate notification information of incidents, accidents and unusual events and determine the extent of NRC response necessary to meet NRC responsibilities for mitigating the consequences of these events;
 - To determine the cause of incidents, accidents, and unusual events in order to ensure that appropriate corrective actions are taken by the licensee to minimize the consequences of these events;
 - To provide onsite expertise in a timely manner, to evaluate the nature and extent of the incident, ascertain plant status (for reactors and fuel facilities), monitor licensee activities, determine compliance, make recommendations, and, if necessary, issue orders relative to the event;
 - To inform the public and others of plant status and technical details concerning the incident;
 - To recommend adequate protective actions to the responsible local and/or state agencies;
 - To provide technical assistance;
 - To ensure the plant is returned to a safe condition; and
 - To return the NRC Headquarters and Regional office to normal operations.
- b) Federal Emergency Management Agency (FEMA): Per the National Response Framework (NRF), FEMA is responsible for the overall coordination of a multi-agency Federal response to a significant radiological incident. The primary role of FEMA is to support the state by coordinating the delivery of Federal non-technical assistance. FEMA coordinates state requests for Federal assistance, identifying which Federal agency can best address specific needs. If deemed necessary by FEMA, it will establish a Federal Response Center from which it will manage its assistance activities.
- c) Federal Radiological Preparedness Coordinating Committee (FRPCC): The FRPCC consists of the Federal Emergency Management Agency, which chairs the Committee, the Nuclear Regulatory Commission, the Environmental Protection Agency, the Department of Health and Human Services, the Department of Energy, the Department of Transportation, the Department of Defense, the Department of Agriculture, the Department of Commerce, and where appropriate and on an ad hoc basis, other Federal departments and agencies. The FRPCC shall assist FEMA in providing policy direction for the program of Federal assistance to state and local governments in their radiological emergency planning and preparedness activities.

- d) U.S. Department of Energy (DOE): The Department of Energy (DOE) has extensive radiological monitoring equipment and personnel resources that it can assemble and dispatch to the scene of a radiological incident. The Department of Energy (DOE) local operations office can assist Exelon Nuclear following a radiological incident as outlined in the Federal Radiological Monitoring and Assessment Plan (FRMAP). If Exelon Nuclear, the NRC or the affected state(s) deem that assistance from DOE is necessary or desirable, the affected state(s) would notify the appropriate DOE operations office.
 - e) Environmental Protection Agency (EPA): Assists with field radiological monitoring/sampling and non-plant related recovery and reentry guidance.
 - f) The U.S. Coast Guard (USCG): The USCG patrols and ensures the safety of navigable waterways in the United States. The USCG is promptly notified of any oil or hazardous substance discharges into rivers or lakes or radioactive contamination of rivers or lakes under its jurisdiction at levels requiring assistance to effect protective actions. The USCG is contacted by the appropriate state agencies in the event of an incident at an applicable nuclear power plant. The USCG is responsible for officially closing the waterways to all commercial traffic [Refer to the appropriate State Plan].
 - g) U.S. Army Corps of Engineers: The U.S. Army Corps of Engineers control barge and boat traffic at locks and dams on navigable waterways in the United States. The Corps of Engineers will be contacted by the appropriate state agencies in the event of an incident at an applicable nuclear power plant. The Corps will be responsible for closing their locks and dams to all waterway traffic leading to the affected area, allowing only traffic leaving the area [Refer to the State Plan].
 - h) Federal Bureau of Investigation (FBI): Support from the FBI is available through its statutory responsibility based in Public Law and the US code, and through a memorandum of understanding for cooperation with the NRC. Notification to the FBI of emergencies in which they would have an interest will be through provisions of the Nuclear Station's Security Plan, or by the NRC.
 - i) National Weather Service (NWS): Provides meteorological information during emergency situations, if required. Data available will include existing and forecasted wind directions, wind speed, and ambient air temperature.
- 2) State Agencies
- a) The Commonwealth of Pennsylvania: The Commonwealth organizations having prime responsibility in matters of radiation hazards are the Pennsylvania Emergency Management Agency and the Bureau of Radiation Protection (BRP) of the Pennsylvania Department of Environmental Protection.

- Pennsylvania Emergency Management Agency: Responsibilities of PEMA are outlined in Annex E, "Radiological Emergency Response to Nuclear Power Plant Incidents" of the Commonwealth of Pennsylvania Emergency Operations Plan. PEMA is the primary State agency to interface with FEMA. Any BRP requests for non-technical assistance from FEMA are coordinated through PEMA.
- Department of Environmental Protection, Bureau Of Radiation Protection (DEP/BRP): Responsibilities of DEP/BRP are outlined in Annex E of the Commonwealth of Pennsylvania Emergency Operations Plan.
- Pennsylvania State Police: Responsibilities of the State Police are set forth in Annex E of the Commonwealth of Pennsylvania Emergency Operations Plan.

3) County Government Agencies

Exelon and the surrounding communities that comprise the Plume Exposure Pathway EPZs have developed integrated emergency response programs that call upon the resources of their community. The community organizations are responsible for implementing and coordinating the community response to an emergency.

The County Emergency Operations Centers (EOCs) serve as the primary coordinating center for local government response within the county's jurisdiction and for coordination between counties.

- b. During an event classified as an Alert, Site Area Emergency, or General Emergency, the Exelon Nuclear ERO replaces the normal plant organization. The Exelon Nuclear ERO consists of three major response sub-organizations:

1) The Station Organization, directed by the Station Emergency Director, provides for:

- Control and operation of the plant.
- Mitigation of the emergency condition.
- Protection of station personnel.
- Emergency event classification.
- Notification of the appropriate individuals and [Federal](#) agencies prior to EOF taking Command and Control.
- Emergency support for operations, engineering, maintenance, fire fighting, material acquisition, security, and first aid.

- 2) The Corporate Organization, directed by the Corporate Emergency Director, provides for:
 - Emergency notifications to Federal, state and local agencies.
 - Offsite radiological accident assessment and Protective Action Recommendations to offsite authorities.
 - The primary interface between Exelon Nuclear and outside organizations responsible for the protection of the public.
 - 3) The Public Information Organization, directed by the Corporate Spokesperson, coordinates with public information officers from other organizations to provide information to the public through the news media.
- c. Interrelationships between major Exelon Nuclear organizations and sub-organizations in the total response effort are illustrated in a block diagram in Figures A-1 and A-2. For a more detailed diagram of the Exelon Nuclear ERO, see Figures TMI B-1a to TMI B-1d.
 - d. The Corporate Emergency Director is a senior Exelon employee with overall responsibility for coordinating emergency response actions in support of the affected Exelon Nuclear station, Emergency Public Information Organization, and affected state(s) and local agencies.
 - e. Procedures for training and maintenance of the emergency organization are in place to ensure 24-hour per day staffing for emergency response, including established communication links.

2. State and County Functions and Responsibilities

The state and counties have emergency response plans that specify the responsibilities and functions for the major agencies, departments, and key individuals of their emergency response organizations. This information is located in their respective plans.

3. Agreements in Planning Effort

Written agreements establishing the concept of operations developed between Exelon Nuclear and other support organizations having an emergency response role within the EPZs have been developed. These agreements identify the emergency measures to be provided, the mutually accepted criteria for implementation, and the arrangements for exchange of information. Agreement letters are not necessary with Federal Agencies who are legally required to respond based on Federal law; however, agreements are necessary if the agency was expected to provide assistance not required by law. Letters of Agreement with private contractors and others who provide services in support of the station shall be obtained by the station and are maintained on file at the station. Exelon Corporate maintains Letters of Agreement with organizations that provide support to multiple stations. A contract/purchase order with

a private contractor is considered acceptable in lieu of a Letter of Agreement for the specified duration of the contract.

4. Continuous Coverage

Exelon Nuclear maintains 24-hour emergency response capability at Three Mile Island. The normal on-shift complement provides the initial response to an emergency. This group is trained to handle emergency situations (e.g. initiate implementation of the E-Plan, make initial accident assessment, emergency classification, notifications, communications, and protective action recommendations) until the augmented ERO arrives. The ERO is composed of a broad spectrum of personnel with specialties in operations, maintenance, engineering, radiochemistry, health physics, material control, fire protection, security, and emergency planning and are available and trained to augment on-shift personnel in an emergency. Procedures for training and maintenance of the emergency organization are in place to provide the capability of continuous (24-hour) operations.

The Corporate Emergency Director, located in the EOF, has the authority and responsibility for assuring continuity of resources (technical, administrative, and material) in the event of the activation of the ERO.

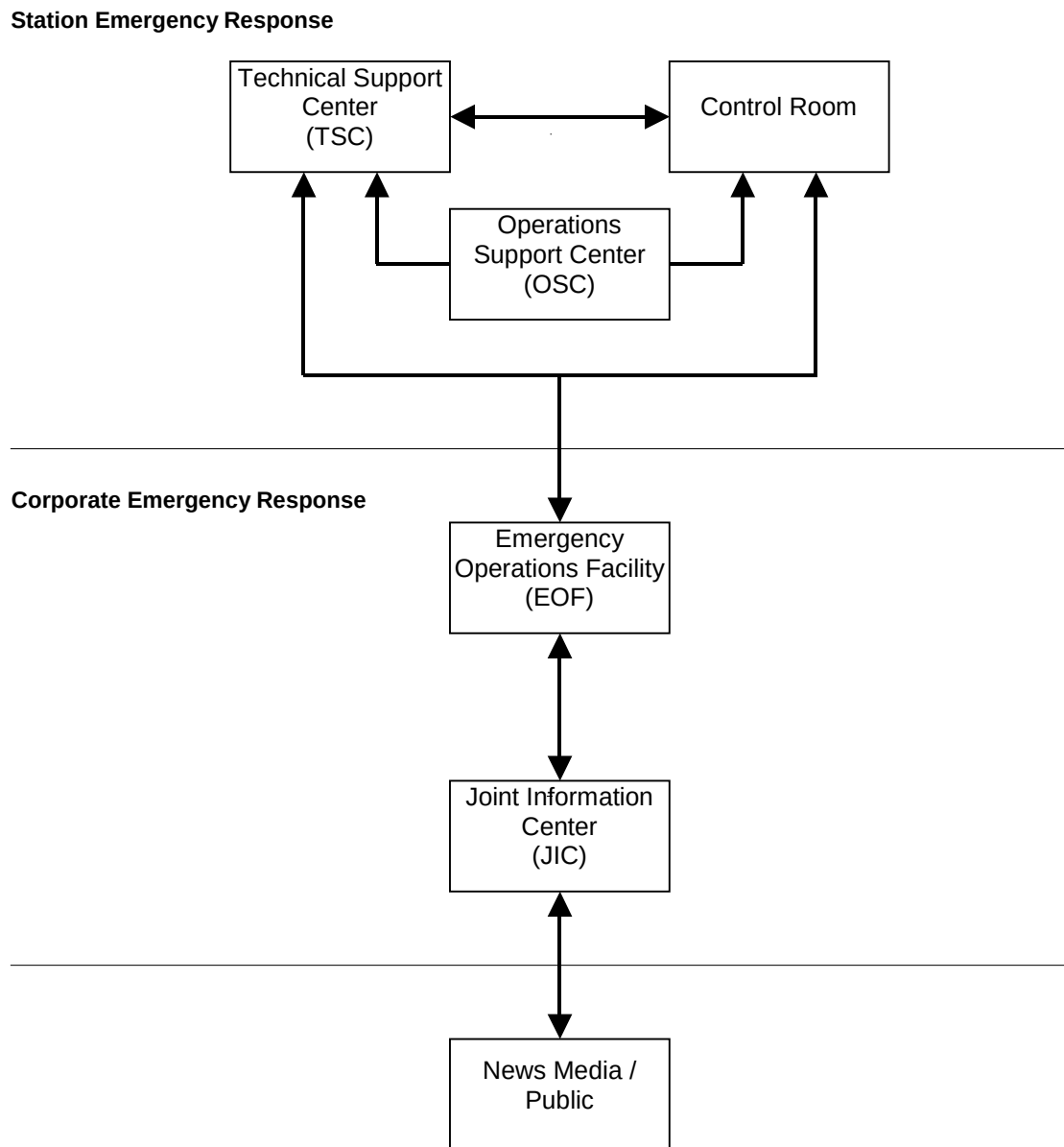
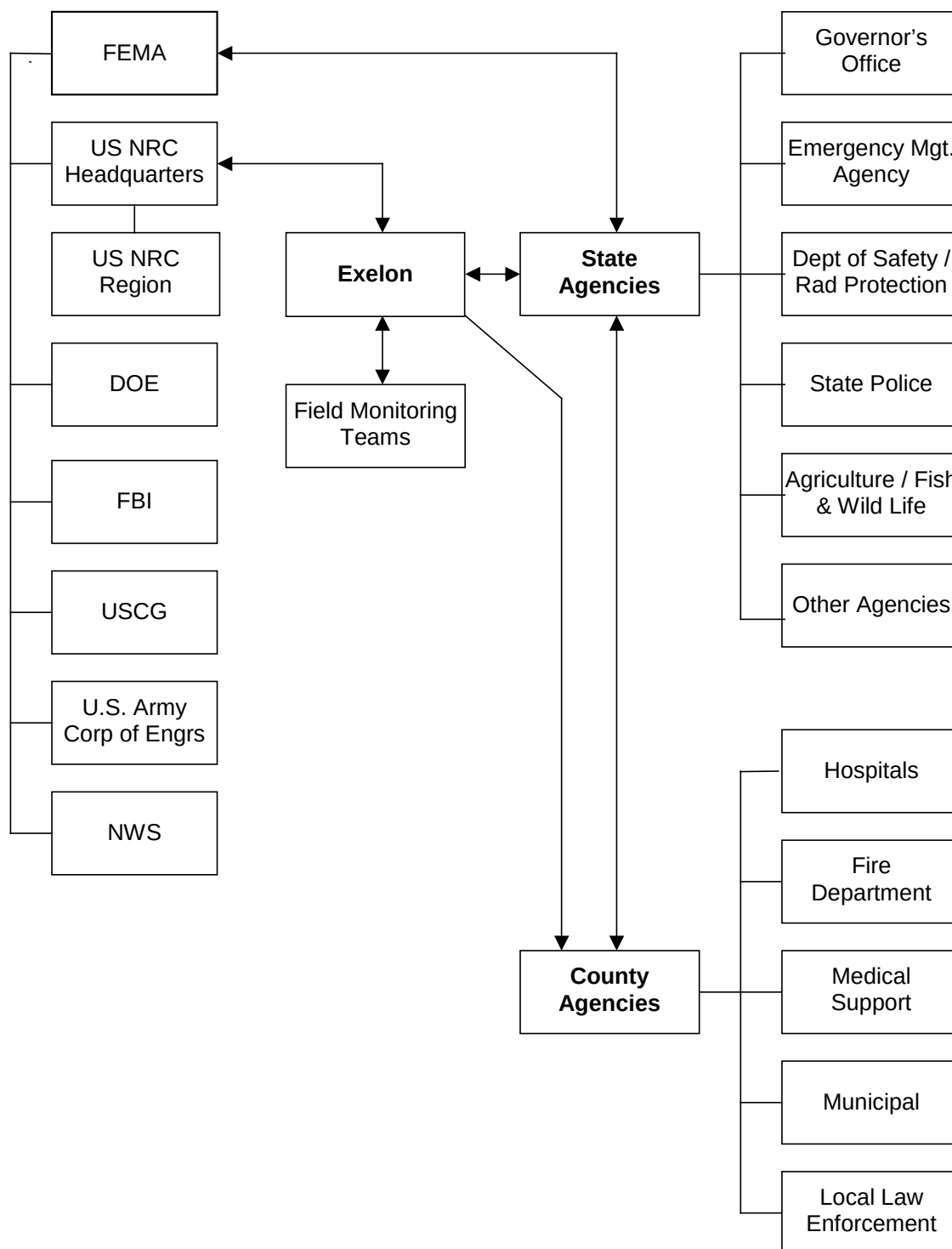
Figure A-1: Exelon Emergency Response Organization Interrelationships

Figure A-2: Agency Response Organization Interrelationships

Section B: Exelon Nuclear Emergency Response Organization

This section describes the Exelon Nuclear Emergency Response Organization (ERO), its key positions and associated responsibilities. It outlines the staffing requirements which provide initial emergency response actions and provisions for timely augmentation of on-shift personnel when required. It also describes interfaces among Exelon Nuclear emergency response personnel and specifies the offsite support available to respond to TMI Station.

1. On-Shift Emergency Response Organization Assignments

The normal plant personnel complement is established with the Station ~~Vice President~~Plant Manager having overall authority for station operations. The Station ~~Vice President~~Plant Manager directs the site organization in the management of the various departments while the Shift Manager retains the responsibility for actual operation of plant systems. Emergency Preparedness must consider the capabilities of the normal plant organization, the Station and Corporate Emergency Response Organizations of Exelon Nuclear, and the non-Exelon Nuclear Emergency Response agencies. The initial phases of an emergency situation at a nuclear station will most likely involve a relatively small number of individuals. These individuals must be capable of (1) determining that an emergency exists; (2) providing initial classification and assessment; and (3) promptly notifying other groups and individuals in the emergency organization. The subsequent phases of the emergency situation may require an increasing augmentation of the emergency organization.

The TMI Station has personnel on shift at all times that can provide an initial response to an emergency event. ERO staffing tables contained within this Emergency Plan outline the plant on-shift emergency organization and its relation to the normal staff complement. Members of the on-shift organization are trained on their responsibilities and duties in the event of an emergency and are capable of performing all response actions in an Unusual Event or the initial actions of higher classifications.

On Shift Personnel

The TMI Station has the capability at all times to perform detection, mitigation, classification, and notification functions required in the early phases of an emergency. Shift augmentation and further ERO involvement will be determined by the extent and magnitude of the event. ~~When a transition to Severe Accident Management Guidelines (SAMG) is initiated, the shift crew assumes the duties and responsibilities of the SAMG Implementers.~~

Shift Manager: While acting as Shift Emergency Director, will take immediate action during an emergency and will activate the Station ERO, as appropriate. In the Shift Manager's absence or incapacitation, the line of succession is defined by TMI procedures.

~~Shift Technical Advisor (STA): During normal plant operations, the Senior Reactor Operators report to the Shift Manager and directly supervise the licensed Reactor Operators and all activities in the Control Room. During an abnormal condition, the Shift Manager assumes direct supervision of personnel and all activities in the Control Room while a qualified individual steps back and assumes an overview role as an STA with the specific responsibility of monitoring the maintenance of core cooling and containment integrity. An individual assigned the duty as the STA shall be available to the Control Room at all times.~~

Radiation Protection: The Station Radiation Protection personnel are responsible for the handling and monitoring of radioactive materials. Included in this organization are Health Physicists, Radiation Protection Supervisors and Technicians.

Chemistry: The Station Chemistry (or designated on-shift) personnel are responsible for sampling of system effluents, and the chemical and radio-analytical analysis of those samples. Included in this organization are Chemists, Chemistry Supervisors and Technicians.

Security: The Station Security personnel are responsible for the physical security of the site. Included in this organization are Security Supervisors and Security Guards.

2. Authority Over the Emergency Response Organization

The Emergency Director in Command and Control is the designated Exelon Nuclear individual who has overall authority and responsibility, management ability, and technical knowledge for coordinating all emergency response activities at the nuclear power station.

- Control Room: Shift Emergency Director (Shift Manager)
- TSC: Station Emergency Director
- EOF: Corporate Emergency Director

3. Criteria for Assuming Command and Control (Succession)

Emergency personnel assume responsibility for their positions upon receiving notification to activate. The responsibility for initial assessment of and response to an emergency rests with the Shift Manager. The Shift Manager is the Shift Emergency Director and has the Station and Corporate Emergency Director's responsibilities and authority until relieved ~~by a qualified Station Emergency Director~~. The Station Corporate Emergency Director, once having relieved the Shift Manager of the Emergency Director responsibilities, is responsible for continued assessment of the severity of the emergency and for the necessary functions as described in the E-Plan, the Station Annex, and the emergency implementing procedures. ~~Final succession is achieved when the Corporate Emergency Director assumes overall Command and Control, and directs Exelon Nuclear's Emergency Response activities.~~

The Shift Emergency Director is relieved of Command and Control as soon as possible after the declaration of an Alert (or higher classification if Alert not declared). ~~Command and Control may be transferred directly to the Corporate Emergency Director, or transferred to the Station Emergency Director on an interim basis.~~ Following the Command and Control turnover, the Corporate Emergency Director shall have overall Command and Control of the Emergency Response. Note that the Station Emergency Director takes responsibility for onsite Non-Delegable Responsibilities including Classification and Emergency Exposure Control. The Corporate Emergency Director takes responsibility for offsite Non-Delegable Responsibilities including Protective Action Recommendations and State/local Notifications. Command and Control does not transfer until the following criteria have been met:

- Adequate staff levels are present in support of the non-delegable responsibilities.
- The staff has been fully briefed as to the status of the event and the currently proposed plan of action.
- A turnover between the Emergency Director relinquishing Command and Control and the Emergency Director assuming Command and Control has been made.

Although the Three Mile Island ERO fulfills all regulatory requirements for emergency response, it may be altered by the Emergency Director. This type of alteration will be based upon identified needs within the ERO, event dependent criteria, and identified needs of the company as a whole.

4. Non-Delegable Responsibilities

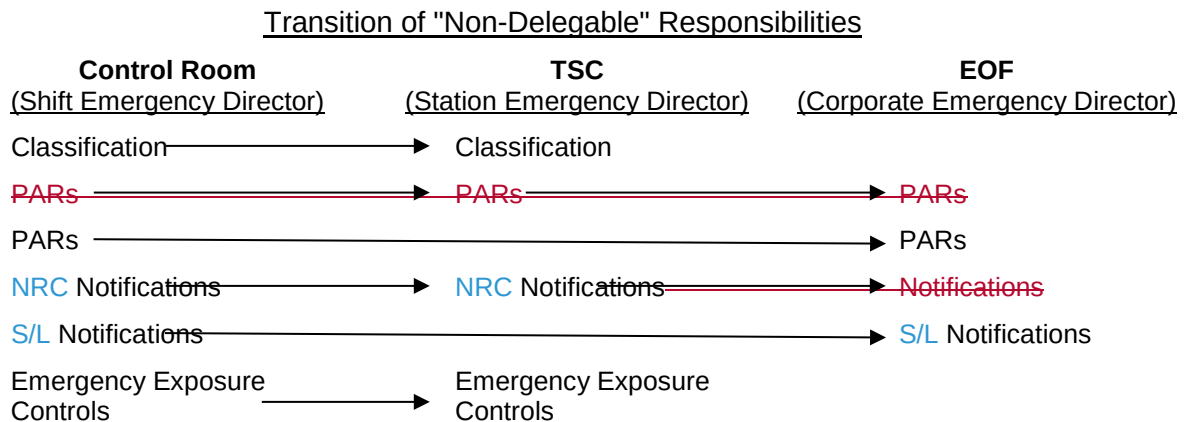
Non-delegable responsibilities include the following functions:

- Event classification.
- Protective Action Recommendations (PARs) for the general public.
- Notification of offsite authorities (approval of state/local and NRC notifications).
- Authorization of emergency exposure controls in excess of 5 Rem TEDE and the issuance of potassium iodide (KI), for Exelon Nuclear emergency workers per EPA-400.

The Shift Manager is responsible for the initial classification of an event and assumes the position as Shift Emergency Director. In this capacity, the Shift Manager has responsibility for performing the non-delegable responsibilities until relieved.

The Shift Emergency Director is relieved of Command and Control as soon as possible after the declaration of an Alert (or higher classification if Alert not declared). Command and Control is transferred to the Station Emergency Director but may be transferred directly to the Corporate Emergency Director.

~~When the Station Emergency Director assumes overall authority and responsibility for Classification and Emergency Exposure Control and NRC Communications, performing all the non-delegable duties from the Shift Manager, the Corporate Emergency Director (EOF) will subsequently relieve the Station Emergency Director (TSC) of overall Command and Control and assume the non-delegable responsibilities for PAR determination and notifications to offsite State and Local authorities.~~



5. Emergency Response Organization Positional Responsibilities

The Emergency Plan designates two types of augmented ERO responders. Those designated as Minimum Staff are those key ERO needed to relieve the on-shift staff of key EP functions/tasks required in response to the Emergency and are those required to activate their respective Emergency Response Facility (ERF). Specifically, these are the ERO that are the absolute minimum needed to implement the emergency plan (i.e., if any position or function is not staffed then the emergency plan may not be effectively implemented). These positions in most cases are required to respond to their respective ERF within 60 minutes of the declaration of an Alert or higher.

The positions which are considered Full Augmented staff (i.e., non-min staff) are those positions which provide support for the minimum staff in their response to the Emergency. The Full Augmentation positions consist mostly of liaisons, coordinators and additional communicators which help facilitate communication and the emergency response effort over time, but are not directly needed to implement the functions/tasks identified in the Emergency Plan.

ERO staffing tables contained within this Emergency Plan outline ERO positions required to meet minimum staffing and full augmentation of the on-shift complement at an Alert or higher classification, and the major tasks assigned to each position. The full augmentation staffing levels are used as a planning basis to cover a wide range of possible events described in Emergency Preparedness Implementing Procedures (EPIPs). For extended events (ones which last for more than 24 hours), actual staffing will be established by the Emergency Director based on the event and personnel

availability. However, additional staffing or reduced staffing will only occur after discussion concerning the impact on plant operations and emergency response.

In addition to maintaining adequate documentation of the event, responsibilities for each position are as follows:

- a. Station Emergency Response Organization: The Station ERO is the onsite group that is activated during an emergency. It functions under the Station Emergency Director, who is responsible for organizing and coordinating the emergency efforts at and within the immediate vicinity of the station (including carrying out all onsite emergency efforts and the initial offsite environs monitoring efforts necessary to assess plant releases).

The Station ERO consists of station personnel who are involved with emergency response efforts necessary to control the plant during an incident. This organization operates out of the Control Room, the Technical Support Center (TSC) and the Operations Support Center (OSC). Collectively, members of the Station ERO provide for the following activities during an emergency:

- Plant systems operations
- Radiological survey and monitoring (including Environs Monitoring)
- Firefighting
- Rescue operations and First Aid
- Decontamination
- Security of plant and access control
- Repair and damage control
- Personnel protection including Assembly, Accountability and Evacuation
- Communications
- Initial Liaison responsibilities with Federal, state and local authorities

~~When plant conditions warrant entry into the Severe Accident Management Guidelines (SAMGs), the Station Emergency Director or other qualified individual (e.g., Operations Manager) assumes the role of Decision-Maker. The Technical Manager and/or another qualified individual(s) assumes the role of Evaluator (at least 2 are required), and the Control Room staff assumes the role of Implementers. Control Room personnel will perform mitigating actions for severe accidents per EOPs prior to TSC activation.~~

All Station ERO personnel shall have the authority to perform assigned duties in a manner consistent with the objectives of this plan.

1) Shift Manager (Shift Emergency Director) Control Room

A Shift Manager is on duty 24 hours a day and is the Shift Emergency Director in a declared emergency until relieved of this function. While serving in this capacity the Shift Manager is responsible for:

- Activating the ERO (as deemed appropriate or as procedurally required).
- Performing those duties outlined in Section B.5.a.2 for the Station Emergency Director. The responsibilities described for the Station Emergency Director applies to either the Shift Emergency Director or the Station Emergency Director depending on which individual is in Command and Control.

The on-duty Shift Manager directs the activities of the operating crew and is responsible for the safe operation of the plant in compliance with the station NRC operating license and the station operating procedures. The Shift Manager, after relinquishing Command and Control, functionally reports to the Operations Manager in the TSC.

The Shift Manager's responsibilities, when not in Command and Control, are described below:

- ~~• The authority and responsibility to shut down the reactor when determined that the safety of the reactor is in jeopardy or when operating parameters exceed any of the reactor protection circuit set-points and automatic shutdown does not occur;~~
- ~~• To ensure a review has been completed to determine the circumstance, cause, and limits under which operations can safely proceed before the reactor is returned to power following a trip or an unscheduled or unexplained power reduction;~~
- ~~• The responsibility to be present at the plant and to provide direction for returning the reactor to power following a trip or an unscheduled or unexplained power reduction;~~
- The responsibility to adhere to the station Technical Specifications and to review routine operating data to assure safe operation;
- The responsibility to identify applicable EALs and emergency classifications; and
- The responsibility to adhere to plant operating procedures and the requirements for their use. During an emergency, operations personnel may depart from approved procedures where necessary to prevent injury to personnel, including the public, or damage to the facility consistent with the requirements of 10 CFR 50.54(x) and (y).

- Supervise the activities of the Control Room Crew, ~~Operations Communicator and Damage Control Communicator in the Control Room.~~

2) Station Emergency Director TSC

The Station Emergency Director reports to the Corporate Emergency Director and supervises and directs the Station ERO. The Station Emergency Director's responsibilities include organizing and coordinating the onsite emergency efforts. Additionally, the Station Emergency Director has the requisite authority, plant operating experience and qualifications to implement in-plant recovery operations.

a) Station Emergency Director Responsibilities while in Command and Control:

- ~~Perform all non-delegable responsibilities as the Emergency Director in Command and Control until relieved by the EOF.~~
- Conduct personnel assembly/accountability and evacuation of non-essential personnel at Site Area Emergency, General Emergency or as conditions warrant.
- If the emergency involves a hazardous substance and/or oil discharges, ensure that appropriate notifications and responses have been made.
- Determine if the OSC is to remain activated at the Alert Classification.

b) Station Emergency Director Responsibilities while not in Command and Control:

- Event classification.
- Emergency exposure controls.
- Protective actions for all onsite personnel.
- Supervision of the Station ERO.
- Inform the Corporate Emergency Director and onsite NRC as to the status of the plant.
- Assist the Corporate Emergency Director in the acquisition of information for the state/local notifications, NRC notifications and offsite agency updates.
- Provide information and recommendations to the Corporate Emergency Director.
- Implement plans, procedures and schedules to meet emergency response objectives as directed by the Corporate Emergency Director.

- Request from the Corporate ERO any additional material, personnel resources or equipment needed to implement response plans and operations.
- ~~Assume the duties and responsibilities of Decision-Maker when a transition to Severe Accident Management Guidelines (SAMGs) is initiated. This responsibility can be delegated to the Operations Manager if qualified.~~

~~3) TSC Director~~ ~~TSC~~

~~The TSC Director reports to the Station Emergency Director and is responsible for the content of information transmitted from the TSC to other agencies (or facilities) and for documenting information received at the TSC in coordination with the Station Emergency Director. Responsibilities include:~~

- ~~• Verify that qualified individuals are filling Communicator positions in the Control Room, TSC and OSC.~~
- ~~• Supervise the activities of the Logistics Coordinator and state/local Communicator.~~
- ~~• Ensure that communications are established with appropriate parties as directed by the Station Emergency Director.~~
- ~~• Ensure that all required notifications to offsite governmental agencies (state/local and NRC) are timely and accurate.~~
- ~~• Act as the Exelon Nuclear Liaison to any NRC Site Team Representatives.~~
- ~~• Ensure that the NRC Site Team Representatives are directed to their appropriate counterparts.~~
- ~~• Assist the Corporate Emergency Director in the acquisition of information for off-site agency updates.~~
- ~~• Record and relay inquiries to the Station Emergency Director. In addition, record responses to such inquiries prior to transmission.~~
- Assist the Station Emergency Director in maintaining proper records.

~~34) ENS Communicators~~ ~~CR/TSC/OSC~~

~~The Communicators are responsible for transmitting/receiving information to and from the TSC, OSC and Control Room. General responsibilities assigned to all the ENS Communicators include:~~

- Establish communications with appropriate parties as directed.

- Transmit information that has been reviewed and/or approved by the responsible Manager or Coordinator.
- Document time, date and information being transmitted or received on appropriate forms.
- Record and relay inquiries and the responses to those inquiries.
- Assist appropriate Managers and Coordinators in maintaining proper records and logs of emergency related activities.
- Gather, record and post appropriate information.

~~a) Specific responsibilities assigned to the State/Local Communicator include:~~

- ~~• Communicate and receive information via the Nuclear Accident Reporting System (NARS) circuit or commercial telephone line with appropriate agencies prior to the EOF accepting Command and Control.~~
- ~~• Monitor NARS communications until released by the TSC Director.~~

~~b) Specific responsibilities assigned to the Damage Control Communicator include:~~

- ~~• Relay requests from the Control Room and TSC for the dispatching of OSC Teams.~~
- ~~• Apprise the station emergency response facilities of the status of OSC Team activities.~~

~~c) Specific responsibilities assigned to the Operations Communicator include:~~

- ~~• Apprise the TSC and EOF staff of the overall plant condition and significant changes to system and equipment status.~~
- ~~• Inform the Control Room, TSC, and EOF of significant changes in event status (e.g. changes in classification, command and control, initiation of station assembly, accountability, evacuation, etc.).~~

~~d) Specific responsibilities assigned to the TSC Technical Communicator include:~~

- ~~• Establish and maintain contact with the EOF Technical Advisor.~~
- ~~• Provide EOF with updates on technical support activities and priorities.~~

~~e) Specific responsibilities assigned to the ENS Communicator include:~~

- ~~• Notify the NRC of changes in event classification, prior to the EOF accepting Command and Control, and assist the EOF ENS Communicator in completing the NRC Event Notification Worksheet and responding to NRC inquiries.~~
- Provide real time updates of significant changes to plant and system status and responses to NRC inquiries.
- Maintain continuous communications with the NRC, if requested, via the NRC ENS phone or commercial telephone line.

~~f) Specific responsibilities assigned to the HPN Communicator include:~~

- ~~• Maintain continuous communications with the NRC, if requested, via the NRC Health Physics Network (HPN) phone or commercial telephone line.~~
- ~~• Communicate current Health Physics information to NRC representatives, as requested.~~
- ~~• Coordinate the communications of radiological information to the NRC with the EOF HPN Communicator (onsite vs. environmental data).~~

45) Operations Manager

TSC

The Operations Manager reports to the Station Emergency Director. Major functions include determining the extent of station emergencies, initiating corrective actions, and implementing protective actions for onsite personnel. In the event that the Station Emergency Director becomes incapacitated and can no longer fulfill the designated responsibilities, the Operations Manager will normally assume the responsibilities until relieved by another qualified Station Emergency Director. Responsibilities include:

- Coordinate TSC efforts in determining the nature and extent of emergencies pertaining to equipment and plant facilities in support of Control Room actions.
- Initiate immediate corrective actions to limit or contain the emergency invoking the provisions of 10 CFR 50.54(x) if appropriate, ~~and specifically when addressing Severe Accident Management Guidelines (SAMG).~~
- Recommend equipment operations checks and miscellaneous actions to the Control Room in support of restoration and accident mitigation.
- Approve emergency special procedures, and implement as required under the provisions of 10 CFR 50.54(x).

- Assist the Maintenance Manager in determining the priority assigned to OSC activities.
- Organize and direct medical response efforts for injured personnel.
- Ensure adequate staffing of the Control Room and TSC subordinates.
- Ensure the Shift Manager is informed of OSC staffing utilization and activities.
- Identify steps or procedures that the Operations staff should be utilizing to properly respond to the emergency condition.
- Assist the Station Emergency Director in evaluating changes in event classification.
- Supervise the activities of the ~~Operations Communicator and the~~ ENS Communicator in the TSC.
- Act as the TSC liaison with the appropriate NRC Site Team Representative.
- ~~At the direction of the Station Emergency Director, assume the duties and responsibilities of the Evaluator, or Decision-Maker if qualified, when transition to Severe Accident Management Guidelines (SAMG) is initiated.~~
- Apprise the TSC and EOF staff of the overall plant condition and significant changes to system and equipment status.
- Inform the Control Room, TSC, and EOF of significant changes in event status (e.g. changes in classification, command and control, initiation of station assembly, accountability, evacuation, etc.).

56) Technical Manager

TSC

The Technical Manager reports to the Station Emergency Director and ~~directs~~ ~~performs~~ ~~a staff in performing~~ technical assessments of station emergencies and assists in recovery planning. Responsibilities include:

- Accumulate, tabulate and evaluate data on plant conditions.
- Evaluate plant parameters during an emergency to determine the overall plant condition.
- ~~Coordinate core damage assessment activities.~~
- Identify data points and control parameters that the Operations staff should monitor.

- Ensure that current and adequate technical information is depicted on status boards.
- Identify and ~~direct staff in the development of~~ special procedures needed ~~to effect long-term safe shutdown or~~ to mitigate a release.
- ~~Supervise the total onsite technical staff effort.~~
- Act as the TSC liaison with state and appropriate NRC Site Team representatives.
- Assist the Radiation Protection Manager for onsite radiological/technical matters.
- Provide EOF with updates on technical support activities and priorities.
- Ensure that the NRC Site Team Representatives are directed to their appropriate counterparts.
- ~~Assist the Station Emergency Director in evaluating plant based PARs (prior to Corporate Emergency Director accepting command and control) and changes in event classification.~~
- ~~Supervise the activities of the TSC Technical Communicator.~~
- ~~Assume the duties and responsibilities of an Evaluator when transition to Severe Accident Management Guidelines (SAMG) is initiated and supervise the activities of the SAMG Evaluator Team~~

7) Technical Support Staff TSC

~~The TSC Technical Support Staff consists of the following minimum staff engineering positions:~~

- ~~—Electrical Engineer~~
- ~~—Mechanical Engineer~~
- ~~—Core/Thermal Hydraulic Engineer—serves as Core Damage Assessment Methodology (CDAM) Evaluator, as applicable.~~

~~In addition, station Engineering support will be augmented on an as needed basis to support accident assessment and mitigation activities.~~

8) Logistics Coordinator TSC

~~The Logistics Coordinator reports to the TSC Director and provides administrative services in support of emergency/recovery operations. Responsibilities include:~~

- ~~Coordinate shift relief and continual staffing of the station.~~

- ~~Arrange for clerical staff at the TSC, OSC and Control Room.~~
- ~~Assist the Security Coordinator in coordinating ERO and station activities in support of on-going security contingency, accountability or site/area evacuation efforts.~~
- ~~Support the processing of special procedures and interim reports during an emergency.~~
- ~~Ensure that event status and priority logs are being maintained in the TSC.~~
- ~~Coordinate record-keeping efforts at the station.~~
- ~~Arrange for food, sleeping facilities and other necessary accommodations for onsite emergency workers.~~
- ~~Arrange for specialized training of Emergency Response personnel as needed.~~

69) Radiation Protection Manager (RPM)

TSC

The Radiation Protection Manager reports to the Station Emergency Director. ~~and supervises the activities of the Radiation Controls Coordinator and Radiation Controls Engineer.~~ The TSC RPM directs a staff in determining the extent and nature of radiological or hazardous material problems onsite. Responsibilities include:

- Accumulate, tabulate and evaluate data on plant conditions such as meteorological and radiological monitoring readings, and other pertinent data.
- Act as the TSC liaison with the appropriate NRC Site Team representative.
- Ensure use of protective clothing, respiratory protection, and access control within the plant as deemed appropriate to control personnel exposures.
- Ensure that appropriate bioassay procedures have been implemented for onsite personnel when a radioactivity incident has occurred.
- Ensure that personnel are decontaminated, if necessary.
- Authorize personnel exposures below 5 Rem TEDE (EPA-400 lower limit).
- Assist the Station Emergency Director in determining if exposures in excess of the 5 Rem TEDE (EPA-400 lower limit) are necessary.

- Advise the Station Emergency Director of situations when the use of KI should be considered.
- ~~• Assist the Station Emergency Director in evaluating dose-based PARs (prior to Corporate Emergency Director accepting command and control) and changes in radiological event classification.~~
- Advise the Station Emergency Director and EOF Radiation Protection Manager of changes in radiological release status.
- Assist the Operations Manager in planning rescue operations and provide monitoring services as required, including the transfer of injured and/or contaminated personnel.
- Coordinate with the Security Coordinator to determine the routes to be used for evacuation of non-essential personnel.
- Assure additional radiation protection personnel and/or equipment is arranged for, as necessary.

~~10) Radiation Controls Engineer (RCE)~~ ~~TSC~~

~~The Radiation Controls Engineer reports to the Radiation Protection Manager and coordinates the radiological and chemistry interface between the technical support engineering efforts. Responsibilities include:~~

- ~~• Monitor area and process radiation monitors to identify trends and potential hazards within the station.~~
- ~~• Evaluate plant environmental factors regarding radiological and other hazardous material conditions.~~
- Evaluate radiological and hazardous material surveys and chemistry sample results as appropriate.
- ~~• Direct the performance of sampling activities through coordination with the OSC Chemistry Lead in support of operations and core damage estimates as necessary.~~
- Coordinate radiological and chemistry information with the Core/Thermal Hydraulic Engineer in support of core damage assessment.

~~11) Radiation Controls Coordinator (RCC)~~ ~~TSC~~

~~The Radiation Controls Coordinator reports to the Radiation Protection Manager. The RCC coordinates site and in-plant Radiation Protection response activities through the OSC Radiation Protection Lead. Responsibilities include:~~

- ~~Support the OSC Radiation Protection Lead in the dispatching of OSC Teams.~~
- ~~Assist the Operations Manager in planning radiological controls for personnel dispatched from the Control Room.~~
- ~~Ensure the proper use of protective clothing, respiratory protection, and access controls in the plant as appropriate to control personnel exposure.~~
- Monitor habitability concerns impacting access to plant and site areas.
- ~~In coordination with the OSC Radiation Protection Lead, a~~Assemble and dispatch the Field Monitoring Teams as required.
- ~~Supervise the activities of the HPN Communicator in the TSC.~~
- ~~Request additional Radiation Protection personnel and/or equipment, as necessary in support of station activities and staff relief.~~
- ~~Prior to EOF Protective Measures Group staffing:~~
 - ~~— Perform dose assessments and provide appropriate dose-based PARs.~~
 - ~~— Coordinate Field Monitoring Team activities.~~
 - ~~— Monitor meteorological conditions and remain cognizant of forecast data.~~
- ~~Following EOF Protective Measures Group staffing:~~
 - ~~— Transfer control of the Field Monitoring Teams to the EOF Environmental Coordinator when appropriate.~~
 - ~~— Transfer responsibility of dose assessment activities to the EOF Dose Assessment Coordinator.~~
 - Assist the EOF Environmental Coordinator in the acquisition of information for the off-site agency updates.

712)

Maintenance Manager
TSC

The Maintenance Manager reports to the Station Emergency Director and directs a staff in providing labor, tools, protective equipment and parts needed for emergency repair, damage control and recovery efforts to place the plant in a safe condition or return the plant to its pre-accident status. Responsibilities include:

- Direct the total onsite maintenance and equipment restoration effort.

- Request additional equipment in order to expedite recovery and restoration.
- Supervise the activities of the OSC Director ~~and the TSC Damage Control Communicator.~~
- Ensure the Operations Manager is informed of OSC staffing utilization and activities.
- In coordination with the Operations Manager, determine the priority assigned to OSC activities.
- Ensure adequate staffing of the OSC.
- Assist in rescue operations.
- Identify required procedures that need to be written or implemented in support of the response efforts.
- Relay requests from the Control Room and TSC for the dispatching of OSC Teams.

813)

ty CoordinatorSecuri
TSC

The Security Coordinator reports to the Station Emergency Director and maintains plant security and personnel accountability at the nuclear station. Responsibilities include:

- Maintain plant security and account for all personnel within the protected area.
- Assist the Station Emergency Director in evaluating changes in security related threats and event classifications.
- Identify any non-routine security procedures and/or contingencies that are in effect or that require a response.
- Expedite ingress and egress of emergency response personnel.
- Coordinate with the Radiation Protection Manager in controlling ingress and egress to and from the Protected Area if radiological concerns are present.
- Provide for access control to the Control Room, TSC and OSC, as appropriate.
- Expedite entry into the Protected Area, as necessary, for the NRC Site Team.

- Act as the TSC liaison with the appropriate NRC Site Team representative.
- Assist the Radiation Protection Manager in determining personnel evacuation routes as necessary.
- Coordinate the evacuation of station non-essential personnel with the appropriate Local Law Enforcement Agencies (LLEAs).

914)

Operations Support Center Director
OSC

The OSC Director reports to the Maintenance Manager and supervises the activities of OSC personnel. Responsibilities include:

- Assign tasks to OSC Pooled Resources ~~designated Leads~~ as available:
 - ~~— Operations~~
 - Mechanical Maintenance
 - Electrical/I&C Maintenance
 - Radiation Protection
 - ~~— Chemistry~~
- ~~• Coordinate with the OSC Operations Lead in the dispatch of Operations personnel to support Control Room and OSC Team activities.~~
- Notify the Control Room and TSC prior to dispatch of any OSC teams into the plant.
- Maintain OSC resources including personnel, material, and equipment.
- Maintain accountability for all individuals dispatched from the OSC.
- Conduct periodic briefings on the overall plant status, emergency response activities, and station priorities.

~~15) Assistant Operations Support Center Director~~ ~~OSC~~

~~The Assistant OSC Director reports to the OSC Director and supports the OSC Director in supervising the activities of personnel reporting to the OSC. The Assistant OSC Director may be filled by an OSC Lead, normally the Radiation Protection Lead. Responsibilities include:~~

- ~~• Assist the OSC Director in supervising personnel assigned to the OSC.~~
- ~~• Assist in formation of Field Monitoring Teams as directed by the TSC.~~

- ~~Assist in f~~Formation of sampling teams.
- ~~Ensure that records of in-plant survey information and radiochemistry results are maintained.~~
- ~~Ensure that accumulated exposure records for all essential onsite personnel are maintained.~~
- ~~Coordinate with the OSC Leads to o~~Organize in-plant teams to support station priorities.
- Ensure that in-plant team dispatch briefings include expected activities and radiological hazards.
- ~~Ensure that periodic facility briefings are conducted on plant radiological conditions.~~

1610)

OSC ~~Leads~~Pooled Resources
OSC

OSC ~~Leads~~Pooled Resources report to the OSC Director and are assigned from the following station departments:

- Mechanical Maintenance
- Electrical / Instrument and Control
- Radiation Protection
- ~~Chemistry~~
- ~~Operations (on-shift Supervising Operator or designated Operations representative)~~

~~The OSC Lead assigned to an OSC team is responsible at all times for the safety of team personnel and to keep the OSC Director apprised of team status. Specifically, the OSC Leads are responsible for the managing and supervising OSC team personnel, including:~~

- ~~Conduct of adequate pre-dispatch briefings.~~
- ~~Ensuring adequate protective equipment and measures have been identified.~~
- ~~Tracking of OSC team activities while dispatched.~~
- ~~Debriefing of team personnel upon return to the OSC.~~

b. Corporate Emergency Response Organization1) Nuclear Duty Officer (NDO)

The NDO is the Exelon Nuclear individual who acts as the initial Corporate contact for declared events. Responsibilities include:

a) Actions for all classified events:

Contact the affected station to verify and obtain updated information concerning emergency response actions and event status.

Notify Exelon Nuclear Executives of event.

Provide information on the event to State Duty Officer, if requested.

Notify the on-call Exelon Communications and Public Affairs Representative.

- Prior to EOF activation, review any news releases for accuracy.

b) Actions for Alert classifications and above:

- Complete all actions as listed above.
- Notify American Nuclear Insurers (ANI) prior to being transferred to the EOF.

2) Corporate Emergency Director

EOF

a) ~~When the Station Emergency Director has Command and Control, the~~ The ongoing responsibilities include:

- Coordinate all Exelon Nuclear activities involved with the emergency response.
- Ensure off-site agency updates are periodically communicated as required/requested.
- Coordinate Exelon Nuclear press releases with the Nuclear Duty Officer and Exelon Communications and Public Affairs.
- Request assistance from non-Exelon Nuclear emergency response organizations, as necessary.

b) Following assumption of Command and Control, the additional responsibilities assigned to the Corporate Emergency Director include:

- Assume overall Command and Control of emergency response activities and the non-delegable responsibilities for PAR determination and the notification of offsite authorities.

- Ensure that Federal, state and local authorities and industry support agencies remain cognizant of the status of the emergency situation. If requested, dispatch informed individuals to offsite governmental Emergency Operation Centers (EOCs).
- Approve the technical content of Exelon Nuclear press releases prior to their being released to the media.

~~3) EOF Director~~ ~~EOF~~

~~The EOF Director reports to the Corporate Emergency Director and has the authority, management ability and technical knowledge to assist the Corporate Emergency Director in the management of Exelon Nuclear's offsite ERO.~~

~~In the event that the Corporate Emergency Director becomes incapacitated, the EOF Director shall assume the responsibilities of the Corporate Emergency Director until a transfer of Command and Control can be affected either back to the station or to another qualified Corporate Emergency Director. Responsibilities include:~~

- ~~• Direct and coordinate the activation and response efforts of the EOF staff in support of the Corporate Emergency Director.~~
- ~~• Evaluate the need to augment the EOF staff based on events in progress.~~
- ~~• Assess the effectiveness of ongoing EOF working relationships.~~
- ~~• Monitor information flow within the EOF to ensure that facility activities remain coordinated.~~
- ~~• Prepare state/local notification forms with the assistance of the EOF Radiation Protection Manager and the Technical Support Manager.~~
- ~~• Coordinate services as necessary to support EOF operations.~~
- ~~• Coordinate with the Administrative Coordinator for continual shift staffing requirements.~~
- ~~• Assist in the conduct of Corporate Emergency Director duties.~~
- ~~• Act as the designated alternate for approval of the technical content of Exelon Nuclear Press Releases and information released to the News Media.~~
- ~~• Act as purchasing agent in support of the TSC for contract negotiation/administration.~~

~~4) Technical Support Manager~~ ~~EOF~~

~~The Technical Support Manager reports to the EOF Director and directs the activities of the Technical Support Group. Responsibilities include:~~

- ~~• Assist the Corporate Emergency Director in monitoring changes in event classification.~~
- ~~• Assist the Corporate Emergency Director in determining plant-based PARs when necessary.~~
- Provide information to the ~~EOF Director~~State and Local Communicator for completing the state/local notification form.
- ~~• Provide the Corporate Emergency Director information concerning the status of plant operations, and recommendations for mitigating the consequences of the accident.~~
- ~~• Coordinate the overall Exelon Nuclear engineering support from corporate staff and unaffected stations.~~
- ~~• Interface with Industry and contractor engineering support organizations.~~
- ~~• Ensure that the EOF Radiation Protection Manager is informed of changes in plant status that impacts or potentially impacts the offsite environment or PARs.~~
- ~~• Provide technical information on facility and system design.~~
- ~~• Assist in the development of post-accident recovery measures.~~

~~5) Operations Advisor~~ ~~EOF~~

~~The Operations Advisor reports to the Technical Support Manager, directs the ENS Communicator, and is responsible for obtaining and analyzing plant status information and ensuring that it is disseminated. Specific responsibilities include:~~

- ~~• Monitor the Operations Status Line to keep apprised of:~~
 - ~~— Control Room activities including progress on Emergency Operating Procedures.~~
 - ~~— Significant changes in plant system/equipment status and critical parameters.~~
 - ~~— Possible changes in event classification.~~
- Identify and track critical parameters for the identification and trending of current plant status information.

- ~~Assist the station in identifying Operations resources from corporate staff or unaffected stations for direct support of plant shift operations personnel.~~
- ~~Assist the ENS Communicator in the completion of the NRC Event Notification Worksheet and in responding to NRC inquiries.~~
- ~~Ensure that the EOF Radiation Protection Manager is informed of changes in plant status that impact or potentially impact the offsite environment or PARs.~~

6) ~~ENS Communicator~~ ~~EOF~~

~~The ENS Communicator reports to the Operations Advisor. Specific responsibilities include:~~

- ~~Notify the NRC of changes in event classification. Generally, the TSC ENS Communicator focuses on real time plant operations and the EOF ENS Communicator focuses on notifications following changes in event classification and overall changes in event response or status.~~
- ~~Establish and maintain continuous communications with the NRC, if requested, via the NRC ENS phone or commercial telephone line.~~
- ~~Coordinate NRC communications with the ENS Communicator in the TSC.~~

7) ~~Technical Advisor~~ ~~EOF~~

~~The Technical Advisor reports to the Technical Support Manager and is responsible for obtaining and analyzing technical support information, accident mitigating activities and priorities and ensuring that it is disseminated. Responsibilities include:~~

- ~~Monitor the Technical Conference Line to remain aware of TSC technical support activities, strategies and priorities.~~
- ~~Assist the Dose Assessment Coordinator in acquiring technical information pertaining to release pathway and core damage assessment.~~
- ~~Supervise the activities of the Events Recorder.~~

8) ~~Events Recorder~~ ~~EOF~~

~~The Events Recorder reports to the Technical Advisor. Responsibilities include:~~

- ~~Gather/record approved information on status boards as requested.~~
- ~~Maintain an event chronology/status log.~~

29) Radiation Protection Manager

EOF

The Radiation Protection Manager reports to the EOF Director and directs the activities of the EOF Radiation Protection staff. Specific responsibilities include:

- Recommend changes in event classification and PARs based upon effluent releases or dose projections.
- Assist the ~~EOF~~ Corporate Emergency Director in the evaluation of the significance of an emergency with respect to the public.
- Notify the ~~EOF~~ Corporate Emergency Director of meteorological changes that may impact identification of downwind areas.
- Advise the Corporate Emergency Director of protective actions taken by the station for plant personnel.
- Assist the TSC in the planning and coordination of activities associated with the evacuation of non-essential personnel.
- Advise the Corporate Emergency Director on the need for emergency exposures or for issuance of KI to the Field Monitoring Teams or Exelon personnel required to enter the plume.
- Determine the need for and contact Occupational Health/Industrial Safety Services personnel for assistance.
- Monitor plant radiological conditions and advise the TSC Radiation Protection Manager of any adverse trends or potential release pathways that may impact existing event classification.
- Assist in the completion and review of the state/local notification form.
- Maintain cognizance of environmental sampling activities.
- Ensure state authorities are provided information pertaining to Exelon Field Monitoring Team activities and sample results.
- Assist the affected station in the following areas:
 - Planning and coordination of activities associated with the evacuation of non-essential personnel.
 - Acquisition of additional instrumentation, dosimetry, protective equipment and radiological support personnel.
- Assist and interface with the EOF Technical Support Group and the station in the development of plans for plant surveys, sampling, shielding, and special tools in support of waste systems processing and design modification activities.

- Upon request, provide in-plant health physics data to Emergency Public Information personnel ~~and the HPN Communicator.~~

~~10) Environmental Coordinator~~ ~~_____~~ ~~EOF~~

~~The Environmental Coordinator reports to the EOF Radiation Protection Manager and directs the Field Team Communicator and Field Monitoring Teams. Responsibilities include:~~

- ~~• Coordinate the transfer of control of the Field Monitoring Teams if initially under the direction of the TSC Radiological Controls Coordinator.~~
- ~~• Ensure communications are established with the TSC to obtain information on the accident conditions, meteorological conditions and estimates of radioactive material releases.~~
- ~~• Maintain cognizance of Field Monitoring Team exposure. When warranted, ask the Dose Assessment Coordinator to initiate an evaluation of the need for administering KI to Exelon nuclear workers.~~
- Determine needs of the Dose Assessment Coordinator, ~~the Dose Assessor, and the HPN Communicator~~ for updates on Field Monitoring Team data and ensure distribution of new data to them in accordance with those needs.
- Upon request, provide environmental data to Emergency Public Information personnel.
- Evaluate and coordinate additional equipment and personnel as necessary from unaffected stations to augment and/or relieve station Field Monitoring Teams.

~~11) Field Team Communicator~~ ~~_____~~ ~~EOF~~

~~The Field Team Communicator reports to the Environmental Coordinator. Responsibilities include:~~

- ~~• Establish and maintain contact with the dispatched Field Monitoring Teams.~~
- ~~• Document the Environmental Coordinator's instructions and then relay this information to the Field Monitoring Teams.~~
- ~~• Document environmental data reported by the Field Monitoring Teams.~~
- ~~• Periodically obtain and document information on Field Monitoring Team radiological exposure.~~
- ~~• Promptly report new environmental or Field Monitoring Team exposure data to the Environmental Coordinator.~~

- ~~Document questions and answers directed to and received from the Field Monitoring Teams. Ensure the Environmental Coordinator is cognizant of these information requests and relay replies to these requests.~~

312)

Dose Assessment Coordinator
EOF

The Dose Assessment Coordinator reports to the EOF Radiation Protection Manager ~~and directs the activities of the Dose Assessor and the HPN Communicator.~~ Responsibilities include:

- Interpret radiological data and provide PARs based upon dose projections to the EOF Radiation Protection Manager.
- Advise the EOF Radiation Protection Manager of changes in event classification based on effluent releases or dose projections.
- Initiate evaluation of the need for administering KI to Exelon nuclear workers ~~when requested by the Environmental Coordinator.~~
- Remain cognizant of forecast and meteorological data and ensure the status is updated periodically.
- Notify the EOF Radiation Protection Manager of meteorological changes that may impact identification of downwind areas.
- Upon request, provide release and dose assessment data to Emergency Public Information personnel, ~~and the HPN Communicator.~~
- Establish and maintain contact with the dispatched Field Monitoring Teams.
- Document environmental data reported by the Field Monitoring Teams.
- Ensure communications are established with the TSC to obtain information on the accident conditions, meteorological conditions and estimates of radioactive material releases.
- Maintain cognizance of Field Monitoring Team exposure. When warranted, initiate an evaluation of the need for administering KI to Exelon nuclear workers.

13) Dose AssessorEOF

~~The Dose Assessor reports to the Dose Assessment Coordinator. Responsibilities include:~~

- Perform dose projections using the Dose Assessment computer models as directed by the Dose Assessment Coordinator.

- Monitor meteorological and plant effluent conditions.
- ~~• Notify the Dose Assessment Coordinator of meteorological changes that may impact identification of downwind areas.~~
- Evaluate the need for administering KI to Exelon nuclear workers. ~~when requested by the Dose Assessment Coordinator.~~

~~14) HPN Communicator~~ ~~EOF~~

~~The HPN Communicator reports to the Environmental Coordinator. Responsibilities include:~~

- ~~• Provide updates and respond to inquiries from the NRC on offsite environmental data, release status, dose projections and changes to PARs for the general public.~~
- ~~• Obtain release and dose assessment data from the Dose Assessment Coordinator and Field Monitoring Team data from the Environmental Coordinator.~~
- ~~• Maintain continuous communications with the NRC, if requested, via the NRC HPN phone or commercial telephone line.~~
- ~~• Communicate current Health Physics information to NRC representatives, as requested.~~

~~15) Logistics Manager~~ ~~EOF~~

~~The Logistics Manager reports to the EOF Director and directs the activities of the administrative, security and liaison personnel. Responsibilities include:~~

- ~~• Ensure contact is made and communications are maintained with appropriate Non-Exelon Nuclear personnel whose assistance may be required to terminate the emergency conditions and to expedite the recovery.~~
- ~~• Advise the EOF Director concerning the status of activities relating to governmental interfaces.~~
- ~~• Obtain support from Human Resources, the Comptroller's Office, the Legal Department, Accounting Department and others as required.~~
- ~~• Coordinate with the Nuclear Duty Officer to maintain communications with ANI and INPO.~~
- ~~• Ensure that access to the EOF is limited to Emergency Responders and authorize admittance to non-Exelon personnel.~~
- ~~• Implement the Exelon Nuclear Fitness for Duty Program.~~

- ~~Ensure that NRC Site Team Representatives are directed to the Regulatory Liaison upon arrival at the EOF.~~
- ~~Ensure that updates and information are provided to the EOF Liaisons and to offsite officials present in the EOF.~~
- ~~Assist in obtaining and coordinating additional equipment/materials and /or technical expertise to support station requests, including Exelon Corporate staff, unaffected stations and vendor/contractors.~~
- ~~Coordinate maintenance of EOF equipment as necessary.~~
- ~~Ensure shift relief and continual staffing for the EOF.~~

~~16) Administrative Coordinator~~ ~~EOF~~

~~The Administrative Coordinator reports to the Logistics Manager. Responsibilities include:~~

- ~~Direct the activities of the Computer Specialist.~~
- ~~Direct the clerical staff and ensure the clerical requirements for the other EOF and JIC staff are met.~~
- ~~Obtain clerical support for the EOF and JIC.~~
- ~~Coordinate shift relief and continual staffing for the EOF.~~
- ~~Obtain services as appropriate to support operation of the EOF.~~

~~174)~~ ~~Computer Specialist~~ ~~EOF~~

~~The Computer Specialist reports to the Corporate Emergency Director~~~~Administrative Coordinator~~. Responsibilities include:

- Assist any personnel in logging in, initializing or using a desired computer program.
- Investigate and repair problems encountered with communications equipment and computer equipment/applications.

~~18) Security Coordinator~~ ~~EOF~~

~~The Security Coordinator reports to the Logistics Manager. Responsibilities include:~~

- ~~Provide and interpret information on security events.~~
- ~~Assist with access control activities at the EOF and JIC.~~

- ~~Perform the following in support of the TSC Security Coordinator:~~
 - ~~— Provide assistance in resolving security events.~~
 - ~~— Assist as a liaison for local, state and federal law enforcement agencies during security related events.~~
 - ~~— Serve as the primary contact to the security force for additional support, if necessary, during a security event.~~
- ~~Obtain additional resources to support access control measures needed at the EOF and JIC.~~

195)

State/Local Communicator
EOF

The State/Local Communicator reports to the ~~Logistics Manager~~ Corporate Emergency Director. Responsibilities include:

- Communicate and receive information via the Nuclear Accident Reporting System (NARS) circuit or commercial telephone line with appropriate state and county agencies.
- Ensure that the ~~Logistics Manager~~ Corporate Emergency Director is made aware of issues and questions raised by offsite agencies and then relay the replies to these requests.
- Prepare state/local notification forms with the assistance of the Corporate Emergency Director and EOF Radiation Protection Manager.

20) ~~EOC Communicator~~ EOC

~~The EOC Communicator reports to the Logistics Manager. Responsibilities include:~~

- ~~Coordinate and dispatch EOC Liaisons as needed or requested.~~
- ~~Establish and maintain periodic contact with each location where Exelon Nuclear EOC Liaisons have been dispatched.~~
- ~~Ensure EOC Liaisons are provided event information and notifications.~~
- ~~Ensure that the Logistics Manager is made aware of issues and questions raised by offsite agencies and then relay the replies to these requests.~~

21) ~~County EOC Liaison(s)~~ County EOCs

~~The County EOC Liaison(s) will be dispatched to County Emergency Operations Centers (EOCs) based on established agreements with the counties. The County EOC Liaisons use the EOC Communicator as their contact at the EOF. Responsibilities include:~~

- ~~Monitor and report County EOC activities to the EOF.~~

- ~~• Conduct briefings and answer questions.~~
- ~~• Provide simplified explanations to EOC personnel of technical details distributed through approved channels.~~
- ~~• Assist with confirmation/verification of information distributed through approved channels.~~
- ~~• Provide media at the EOC with approved Exelon Nuclear press releases.~~
- ~~• Assist Emergency Public Information personnel in rumor control and media monitoring.~~

22) ~~State EOC Liaison~~ ~~State EOC~~

~~At the request of state officials and/or at the discretion of the Corporate Emergency Director, Exelon Nuclear will provide Liaison personnel to state Emergency Operation Center (EOC). The state EOC Liaison uses the EOC Communicator as the contact at the EOF. Responsibilities include:~~

- ~~• Monitor and report state EOC activities to the EOF.~~
- ~~• Conduct briefings and answer questions as requested.~~
- ~~• Assist Emergency Public Information personnel in rumor control and media monitoring.~~

23) ~~Regulatory Liaison~~ ~~EOF~~

~~The Regulatory Liaison reports to the Logistics Manager. Responsibilities include:~~

- ~~• Coordinate interfaces between Exelon Nuclear personnel and governmental agencies within the EOF.~~
- ~~• Obtain necessary equipment and supplies to support activities of governmental agencies located in the EOF.~~
- ~~• Act as the Exelon Nuclear Liaison to the NRC Site Team representatives.~~

c. Public Information Emergency Response Organization

1) Corporate Spokesperson JIC

The Corporate Spokesperson reports to the Corporate Emergency Director and is responsible for directing the Exelon Emergency Public Information Organization and providing news information to the media. Responsibilities include:

- Maintain command and control of the Joint Information Center.

- Coordinate with Federal, state and local agencies, as well as with other organizations involved in the emergency response, to maintain factual consistency of information to be conveyed to the news media/public.
- Conduct periodic briefings with the news media.
- Interface with the Public Information Director.
- Coordinate and direct responses to media inquiries.
- Ensure that the composition and timeliness of Exelon News Releases are adequate.
- Provide for timely exchange of information between other spokespersons.

~~2) Technical Spokesperson~~ ~~JIC~~

~~The Technical Spokesperson reports to the Corporate Spokesperson. Responsibilities include:~~

- ~~• Assist in development of technical and plant status information for use in news releases and media briefings.~~
- ~~• Assist the Events Recorder in the preparation of a chronological event description log.~~
- Prepare briefing papers which contain additional detail and background not found in the news releases.
- ~~• Provide answers as soon as possible to media questions.~~
- Provide a follow-up explanation that corrects misinformation as soon as practicable.

~~3) Radiation Protection Spokesperson~~ ~~JIC~~

~~The Radiation Protection Spokesperson reports to the Corporate Spokesperson. Responsibilities include:~~

- ~~• Assist in development of environmental and health physics information for use in news releases and media briefings.~~
- ~~• Assist the Events Recorder in the preparation of a chronological event description log.~~
- ~~• Prepare briefing papers which contain additional detail and background not found in the news releases.~~
- ~~• Provide answers as soon as possible to media questions.~~

- ~~• Provide a follow-up explanation that corrects misinformation as soon as practicable.~~

24) JIC Director

JIC

The JIC Director reports the Corporate Spokesperson to ensure the operability of and to supervise the activities in the JIC. Responsibilities include:

- Maintain cognizance of conditions of the plant and environment, and the actions of Exelon Nuclear and governmental support personnel.
- Coordinate with Federal, state and local agencies, as well as with other organizations involved in the emergency response, to maintain factual consistency of information to be conveyed to the news media/public.
- Participate, as needed, in rumor control activities.
- Ensure that adequate information flow between the EOF and the JIC is coordinated through the Public Information Director.
- Authorize admittance of non-Exelon Nuclear officials to the JIC.
- Provide the drafted news releases to the Corporate Emergency Director for technical review prior to Public Information Director approval.

5) JIC Coordinator

JIC

~~The JIC Coordinator reports to the JIC Director and supervises the facilities support staff. Responsibilities include:~~

- ~~• Ensure the JIC is activated and operational. This includes the availability of communications and visual aids.~~
- ~~• Ensure that access to the JIC areas occupied by Exelon personnel is controlled.~~
- ~~• Establish a minimum frequency for addressing news media/public representatives and ensure that some form of communication occurs within that time frame (i.e., an update at least hourly.)~~
- ~~• Ensure that approved News Releases and Chronological Event Description Logs are made available in the JIC.~~
- ~~• Document unanswered questions and serious public misinformation issues. Follow-up on these questions and issues to ensure that they are being adequately addressed.~~
- ~~• Coordinate the interface between Exelon Nuclear and the news media/public, including, as necessary, briefings, news conferences, interviews and responses to information requests.~~

~~6) Administrative Coordinator JIC~~

~~The Administrative Coordinator reports to the JIC Director. Responsibilities include:~~

- ~~• Coordinate with the EOF Administrative Coordinator to ensure the clerical requirements for the other JIC staff are met.~~
- ~~• Coordinate shift relief and continual staffing for the JIC.~~
- ~~• Obtain services as appropriate to support operation of the JIC.~~

~~7) Access Controller JIC~~

~~The Access Controller reports to the JIC Director and is responsible for controlling facility access and obtaining authorization prior to admitting non-Exelon Nuclear officials into the JIC.~~

~~38) Public Information Director (PID) JIC~~

When the Emergency Public Information Organization is activated, the Public Information Director reports to the Corporate Spokesperson and is responsible for all emergency event related information intended to be conveyed from Exelon Nuclear to the news media/public. ~~The Public Information Director may perform this function at remote locations. The Public Information Director supervises the activities of the, News Writer, Events Recorder and media monitoring and rumor control personnel.~~ Responsibilities include:

- Provide the Corporate Emergency Director with an overview of the public and media impacts resulting from the Exelon Nuclear and governmental activities.
- Participate with the Corporate Emergency Director regarding information to be released to the public.
- Authorize the issuance of news releases.
- Interface with the Corporate Spokesperson at the JIC.
- Act as a liaison between the ERO and Exelon Nuclear's corporate executives.
- Maintain cognizance of conditions of the plant and environment, and the actions of Exelon Nuclear and governmental support personnel.
- Coordinate information flow between the EOF and the JIC.
- ~~Coordinate with the Media Monitoring Staff to r~~Review and access media coverage of the emergency event.

~~9) News Writer~~ ~~JIC~~

~~The News Writer reports to the Public Information Director. Responsibilities include:~~

- ~~• Compose draft news releases with assistance from the Technical Spokesperson and the Radiation Protection Spokesperson JIC Director.~~
- ~~• Provide the drafted news releases to the Corporate Emergency Director for technical review prior to Public Information Director approval.~~

~~10) Events Recorder~~ ~~JIC~~

~~The Events Recorder reports to the Public Information Director. Responsibilities include:~~

- ~~• Develop a chronological event description log.~~

~~11) Media Monitoring Staff~~ ~~JIC~~

~~The Media Monitor reports to the Public Information Director. Responsibilities include:~~

- ~~• Ensure that the media is being monitored and that Exelon Nuclear personnel review the information detailed or contained in media releases.~~
- ~~• Inform the Public Information Director of all media reports and of actions taken to correct any misinformation or rumors.~~
- ~~• Direct the activities of the Rumor Control Staff with respect to the function of monitoring rumors from sources other than the media.~~

~~12) Rumor Control Staff~~ ~~JIC~~

~~The Rumor Control Staff reports to the Public Information Director and acts in support of the Media Monitors. Responsibilities include:~~

- ~~• Ensure that rumors are reviewed, documented and responded to by Exelon Nuclear personnel as deemed appropriate.~~
- ~~• Until the JIC is fully activated, document and respond to rumors as quickly as possible, through the Exelon Communications and Public Affairs.~~
- ~~• Inform the Media Monitors when rumors representing serious misinformation are encountered.~~

6. Three Mile Island Emergency Response Organization Block Diagram

ERO staffing tables contained within the Emergency Plan, list the key positions of the ERO ~~and the supporting positions assigned to interface with federal, state, and county authorities~~. Figures TMI B-1a through TMI B-1d illustrate the overall emergency response organization. Table TMI B-1 specifies the required staffing levels. Section B.5 discusses specific responsibilities and the interrelationships for key positions.

7. Exelon Corporate Emergency Response Organization

The Corporate ERO consists of the EOF Organization and the Emergency Public Information Organization. Personnel staffing these corporate organizations are covered in detail in Section B.5 of this plan.

The Corporate Emergency Response Organization is staffed by Exelon personnel, and operates out of the Emergency Operations Facility (EOF) and the Joint Information Center (JIC). The Corporate ERO is supported by News Media Spokespersons, environmental assessment staff and monitoring teams that provide long-term support to the affected station. Additionally, the Corporate ERO has long term liaison responsibilities with federal, state, and local authorities. [These positions are further described in the EPIPs.](#)

The Emergency News Center (ENC) function is responsible for the collection and analysis of event information and status, and development of Company news statements. This information is then communicated to the JIC [Corporate Spokespersons](#). The ENC function may be located at either the EOF or the JIC.

The ~~Corporate ERO~~[EOF](#) is activated at an Alert. The EOF Organization is responsible for evaluating, coordinating and directing the overall company activities involved in the emergency response. Within the EOF, the Corporate Emergency Director shall assume Command and Control from the ~~Station-Shift~~[Emergency Director](#) when classification escalates to an Alert or higher, unless the EOF capabilities are limited such that the overall control and responsibility for PARs and offsite notifications cannot be assumed. [The JIC is activated within 90 minutes of an Alert. Some JIC functions may continue to be performed by the Exelon Communications organization until transferred to the JIC.](#)~~The EOF may also function in a supporting role to the station when the Station Emergency Director maintains Command and Control.~~

8. Industry/Private Support Organizations

Exelon Nuclear retains contractors to provide supporting services to nuclear generating stations. A contract/purchase order with a private contractor is acceptable in lieu of an agreement letter for the specified duration of the contract. Among services currently provided are the following:

- a. ~~DELETED~~ ~~Institute of Nuclear Power Operations (INPO): Experience has shown that a utility may need resources beyond in-house capabilities for the recovery from a nuclear plant emergency. One of the roles of the Institute of Nuclear Power Operations (INPO) is to assist affected utilities by quickly applying the resources of the nuclear industry to meet the needs of an emergency. INPO has an emergency response plan that enables it to provide the following emergency support functions:~~

- ~~• Assistance to the affected utility in locating sources of emergency personnel, equipment and operational analysis.~~
- ~~• INPO, Electric Power Research Institute (EPRI) and Nuclear Energy Institute (NEI) maintain a coordination agreement on emergency information with their member utilities.~~
- ~~• INPO provides the "Nuclear Network", or its replacement, electronic communications system to its members, participants, NEI, and EPRI to coordinate the flow of media and technical information about the emergency.~~
- ~~• Exelon Nuclear may obtain utility industry information and assistance from any party to this agreement through the coordination of INPO.~~

~~To support these functions, INPO maintains the following emergency support capabilities:~~

- ~~• A dedicated emergency call number.~~
- ~~• Designated INPO representative(s) who can be quickly dispatched to the utility emergency response organization to coordinate INPO support activities and information flow.~~
- ~~• The 24-hour per day operation of an Emergency Response Center at INPO headquarters.~~

~~Exelon Nuclear will notify INPO (via the designated emergency call number) for all situations involving an Alert, Site Area Emergency, or General Emergency declaration per the Exelon Nuclear Reportability Manual.~~

~~INPO has coordinated the preparation of a Voluntary Assistance Agreement for Transportation Accidents. Exelon Nuclear has signed this agreement which establishes the rights and responsibilities of electric utilities in requesting or providing assistance for response to a nuclear materials Transportation Accident.~~

- b. American Nuclear Insurers (ANI): In early 1982, ANI issued Bulletin #5B (1981) "Accident Notification Procedures for Liability Insurers" which provides revised criteria for the notification of the Pools in the event of a nuclear emergency at one of the liability insured nuclear power reactor sites. This revision brings the ANI/MAELU (Mutual Atomic Energy Liability Underwriters) notification criteria into alignment with the standard emergency classification system adopted by the nuclear industry. This document also identifies a suitable channel for follow-up communication by ANI after initial notification.
- ANI/MAELU Emergency Assistance: In the event of an extraordinary nuclear occurrence (as defined in the Price-Anderson Law) ANI and MAELU (the insurance pools) have plans prepared to provide prompt emergency funding to affected members of the public.
 - ANI/MAELU Emergency Assistance (Claims Handling Procedures): The pools' emergency assistance arrangements contemplate the mobilization and dispatch of emergency claims teams to directly dispense emergency assistance funds to affected members of the public.

The pools should be notified in the event of a nuclear emergency requiring notification of state or Federal governmental agencies, or if the insured believes that offsite persons may be affected and financial assistance of a nature discussed may be required. In these instances, ANI expects notification as soon as possible after the initiation of the emergency. Exelon notification to the pools in the event of an Alert, Site Area Emergency, or General Emergency will be in accordance with the Exelon Nuclear Reportability Manual.

Even if it appears to be remote that offsite persons will be affected, the pools should be notified in order that response plans can be initiated to the point of alerting teams of adjusters to stand by. Response activity can be discontinued if it proves less severe and does not require pool response.

All nuclear occurrences of an emergency or non-emergency nature that fall under the nuclear liability policy should be reported formally in writing to ANI by the Exelon Nuclear Insurance Administrator.

- Emergency Notification and Follow-up Procedures: Pre-established lines of communication exist between each utility and ANI in order to exchange all required information during a developing emergency situation.

ANI maintains 24-hour coverage of an emergency notification number. During normal office hours (8:00 am - 4:00 pm) their number will be answered by the receptionist who will transfer an incoming emergency call to an appropriate individual in the office. Outside of normal office hours, this telephone line is covered by an answering service. The answering service will intercept the call and obtain the name, affiliation and telephone number of the caller. They will then notify a designated ANI staff member who will in turn call back the utility to obtain appropriate information regarding the nuclear accident.

In order that follow-up information is available to the Insurance Pool Exelon Nuclear has established the Corporate Emergency Director or their designee as a Point of Contact that ANI personnel may use to update themselves regarding the status of the emergency.

NOTE: For the below listed support services, the specific contractors may change but the functions are maintained.

c. Environmental Monitoring Services:

Environmental Inc.: Environmental Inc. provides emergency Radiological Environmental Monitoring Program (REMP) services. These services include:

- Sample collection
- Handling, packaging and storage of test samples
- Sample shipment
- Chain of Custody

The Environmental Inc. Midwest Laboratory in Northbrook, Illinois analyzes environmental samples for their radioactivity content and reports results to Exelon Nuclear. The REMP sample collection activities at certain Mid-Atlantic and Northeast stations have been subcontracted to Normandeau and Associates or Exelon Industrial Services (also referred to as Fort Smallwood) while others are performed by station personnel.

- d. Teledyne Brown Engineering: Teledyne Brown Engineering provides bioassay analysis and radiochemical analysis services.
- e. Department Of Energy (DOE) Radiation Emergency Assistance Center/Training Site (REAC/TS): DOE REAC/TS provides services of medical and health physics support. REAC/TS advises on the health physics aspects of situations requiring medical assistance.
- f. Murray and Trettel, Inc.: Murray and Trettel, Inc. provide meteorological monitoring services, including weather forecasts. Murray and Trettel maintain all Exelon Nuclear station meteorological facilities. Murray and Trettel have computer capability to poll remotely the meteorological facilities to ascertain local conditions and to detect instrument failure.
- g. Landauer, Inc.: Landauer provides extremity dosimetry services. In an emergency Landauer would provide additional dosimetry to the affected nuclear station and EOF, if needed.

- h. Manufacturer Design and Engineering Support: Under established contracts, the following will provide available engineering expertise, specialized equipment and other services identified as needed and deemed appropriate to assist in an emergency situation:

- General Electric (GE) Nuclear Energy
- Westinghouse Electric Company

9. Supplemental Emergency Assistance to the ERO

Agreements are maintained with outside support agencies who do not take part in the organizational control of the emergency that provide assistance when called on during an emergency or during the recovery phase. These agreements identify the emergency measures to be provided, the mutually accepted criteria for implementation, and the arrangements for exchange of information. These support agencies (named in the Station Annex) provide services of:

- a. Law enforcement;
- b. Fire protection;
- c. Ambulance services;
- d. Medical and hospital support

Support groups providing transportation and treatment of injured station personnel are described in Section L of this plan.

PART II: Planning Standards And Criteria

Exelon Generation

TABLE TMI B-1: Minimum Staffing Requirements for TMI Station

Functional Area	Major Tasks	Emergency Positions	Minimum Staffing			Full Augmentation
			Shift Size	^(a) 60 Minute Augmentation	90-Minute Augmentation Other On-Call	
1. Plant Operations/Safe Shutdown and Assessment of Operational Aspects	Control Room Staff	Shift Manager (~~Certified Fuel Handler~~ ~~Control Room~~ Shift Supervisor (CFH) ~~Control Reactor~~ Non-Certified Operator ~~Auxiliary Operator~~	1 1 ~~12~~ ~~2~~			
2. Emergency Direction and Control	Command and Control / Emergency Operations	Shift Emergency Director (CR) Station Emergency Director (TSC) Corporate Emergency Director (EOF)	1 ^(b)	1 1		
3. Notification & Communication	Emergency Communications Plant Status ^(m) In-Plant Team Control ^(m) Technical Activities ^(m) Governmental ^(l)	Plant Shift Personnel (CR) ~~TSC Director (TSC)~~ ~~EOF Director (EOF)~~ State/Local Communicator ENS Communicator ~~HPN Communicator~~ ~~Operations Communicator (CR/TSC)~~ ~~Damage Control Comm. (CR/TSC/OSC)~~ ~~Technical Communicator (TSC)~~ ~~Communicator (EOF)~~ ~~State EOC Liaison^(d) (PEMA)~~ ~~Regulatory Liaison (EOF)~~	1	 1 1 1 (EOF) 1 (TSC) ~~1 (EOF)~~		 1 (TSC) 1 (EOF) 1 (TSC) 2 3 1 1 1 1
4. Radiological Accident Assessment and Support of Operational Accident Assessment	Offsite Dose Assessment Offsite Surveys Onsite Surveys In-plant Surveys Chemistry RP Supervisory	~~RP Plant~~ Personnel (CR) Dose Assessment Coordinator (EOF) ~~Dose Assessor (EOF)~~ ~~Radiation Controls Coordinator (TSC)~~ ~~Environmental Coordinator (EOF)~~ ~~Field Team Communicator (EOF)~~ Field Team Personnel ^(h) Field Team Personnel ^(th) RP Technicians or equivalent Chemistry Personnel Radiation Protection Manager (TSC) Radiation Protection Manager (EOF)	1 ^(b) 21 1 ^(b)	1 1 24 12 1 1	 2 ⁽ⁿ⁾	 1 1 1 (e) (e) (e) (e)

TABLE TMI B-1: Minimum Staffing Requirements for TMI Station (Cont'd)

Functional Area	Major Tasks	Emergency Positions	Minimum Staffing			Full Augmentation
			Shift Size	(a) 60 Minute Augmentation	90-Minute Augmentation Other On-Call	
5. Plant System Engineering, Repair and Corrective Actions	Technical Support	~~STA / Incident Assessor^(f)~~ (CR) Technical Manager (TSC) ~~Core/Thermal Hydraulics Engineer~~ (TSC) ~~Mechanical Engineer~~ (TSC) ~~Electrical Engineer~~ (TSC) ~~SAMG Decision Maker~~ (TSC) ~~SAMG Evaluator~~ (TSC) Operations Manager (TSC) ~~Radiation Controls Engineer~~ (TSC)	1	1 1 1 1 1 ^(b) 2 ^(b) 1		1
	Repair and Corrective Actions	Mechanical Maintenance (OSC) Electrical Maintenance H&C (OSC) Maintenance Manager (TSC) OSC Director/Repair Team Lead (OSC) ~~Assistant OSC Director~~ (OSC) ~~OPs Lead & Support Personnel~~ (OSC)	1 ^(b) 1 ^(b) 1 ^(b)	1 ^(k) 1 ^(k) 1 1	1 ^(k)	(e) (e)
	Accident Analysis ^(l)	~~Technical Support Manager~~ (EOF) ~~Operations Advisor~~ (EOF) ~~Operations Assistant~~ (EOF) ~~Technical Advisor~~ (EOF)				1 (e) 1 1 1 1
6. In-Plant Protective Actions	Radiation Protection	RP Technicians, or equivalent	2 ^(b)	14		(e)
7. Fire Fighting	--	Fire Brigade ^(e)	Per fire plan 6			
8. First Aid and Rescue Operations	--	Plant Personnel	2 ^(b)			(e)
9. Site Access Control and Personnel Accountability	Security & Accountability	Security Team Personnel Security Coordinator ^(l) (TSC/EOF)	(f)	(f) 1		2
10. Resource Allocation and Administration	Logistics / Administration	~~Logistics Manager~~ (EOF) ~~Logistics Coordinator~~ (TSC) ~~Administrative Coordinator~~ (EOF) ~~Clerical Staff~~ (TSC/OSC/EOF) ~~Events Recorder~~ (EOF) Computer Specialist (EOF)		1		1 1 (e) 1 1
					1 ⁽ⁿ⁾	1

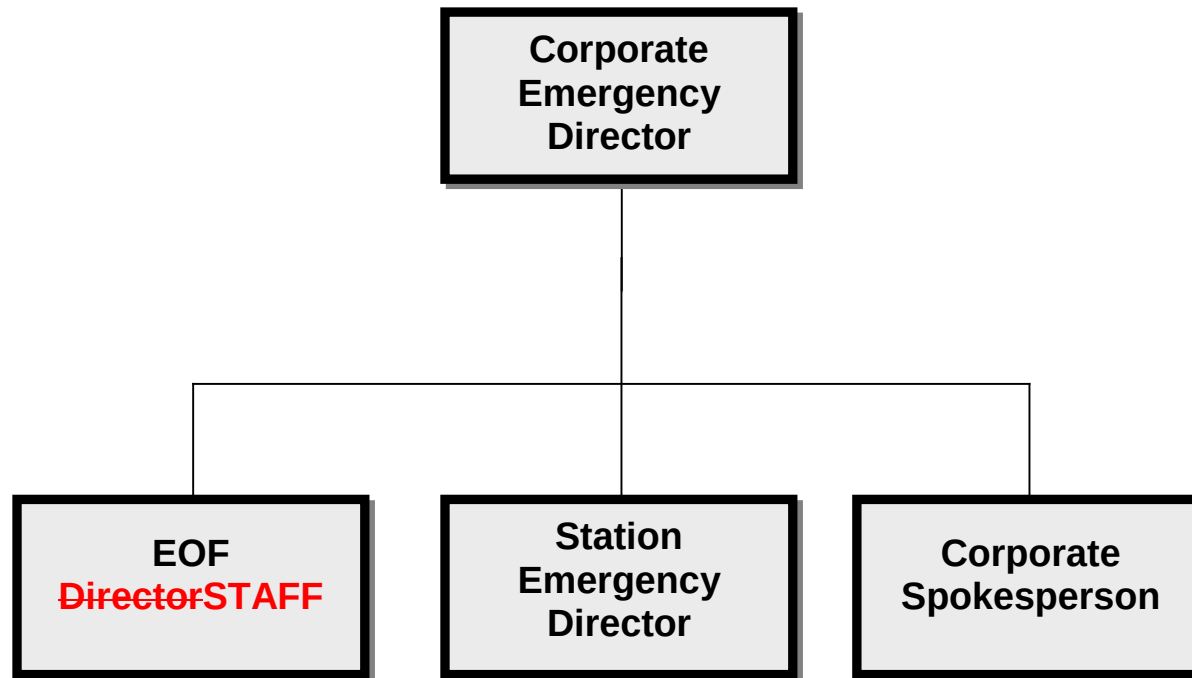
TABLE TMI B-1: Minimum Staffing Requirements for TMI Station (Cont'd)

Functional Area	Major Tasks	Emergency Positions	Minimum Staffing			Full Augmentation
			Shift Size	(a) 60 Minute Augmentation	90-Minute Augmentation or On-Call	
11. Public Information	Media Interface	Corporate Spokesperson (JIC) ~~Rad Protection Spokesperson (JIC)~~ ~~Technical Spokesperson (JIC)~~			1 ^(g)	± ±
	Information Development	Public Information Director (JIC) ~~News Writer (JIC)~~			1 ^(g)	± (c)
	Media Monitoring and Rumor Control ^(b)	~~Media Monitoring Staff (JIC)~~ ~~Rumor Control Staff (JIC)~~				(c) (c)
	Facility Operation and Control	JIC Director (JIC) ~~JIC Coordinator (JIC)~~ ~~Administrative Coordinator (JIC)~~ ~~Events Recorder (JIC)~~ ~~Clerical Support (JIC)~~ ~~Access Control (JIC)~~			1 ^(g)	± ± ± (c) ±
	TOTAL (Non-Collateral):		11 (9) ^(e) 17	1832	64	34+

Legend:

- (a) Response time is based on optimum travel conditions.
- (b) May be provided by personnel assigned other functions. Personnel can fulfill multiple functions.
- (c) ~~Personnel numbers depend on the type and extent of the emergency.~~ Deleted
- (d) ~~Staffing of the County EOC Liaison position is not required based on agreements with offsite agencies; however, every effort will be made to dispatch an Exelon Nuclear representative upon request from County EOC Director.~~ Deleted
- (e) ~~Fire Brigade per FSAR/TRM, as applicable. Includes one NSO for oversight in addition to the 5 Fire Brigade members per TMI Fire Plan. The Fire Brigade will be staffed per the TMI Fire Protection Plan. Upon a successful evaluation and approval of an incipient Fire Brigade in accordance with 10CFR 50.48(f), the Fire Brigade compliment will be reduced to three (3) persons. This is anticipated to occur sometime following shutdown. Until the 50.48(f) Fire Brigade evaluation is completed, the Fire Brigade will consist of five (5) persons.~~
- (f) Function performed by on-shift security personnel.
- (g) The following Emergency Public Information Organization personnel will be designated "minimum staffing" (on-call) positions, but are not subject to the 60-minute response time requirement: Corporate Spokesperson, Public Information Director and JIC Director ~~will be staffed at 90-minutes from the declaration of an Alert of higher.~~
- (h) Each Field Monitoring Team consists of a qualified Lead and Driver, trained in plume monitoring and air sample collection, as appropriate to designated task. Qualified on-shift personnel may also be mobilized, if required based on event, to support initial field monitoring requirements.
- (i) ~~Refer to Section 2.1.3 for description of on-shift STA/Incident Assessor staffing requirements.~~ Deleted

- (j) TSC Security Coordinator position will be staffed by TMI Security personnel. ~~The EOF Security Coordinator position will be staffed by Corporate personnel.~~
- (k) Within 60 Minutes, TMI is committed to having one (1) Mechanical Maintenance Technician and one (1) Electrical Maintenance Technician onsite and assigned to the OSC. ~~Within 90 minutes, TMI is committed to have one (1) I&C Technician onsite and assigned to the OSC.~~ Technicians who are already on shift may satisfy this requirement.
- (l) Positions controlled by Emergency Preparedness Implementing Procedures (EPIPs).
- (m) Positions eliminated due to TMI being in a permanent defueled condition.
- (n) These positions are 90-minute responders, but are not required for facility activation.

Figure TMI B-1a: Exelon Overall ERO Command Structure

Shaded/Bold Boxes indicate minimum staffing positions.

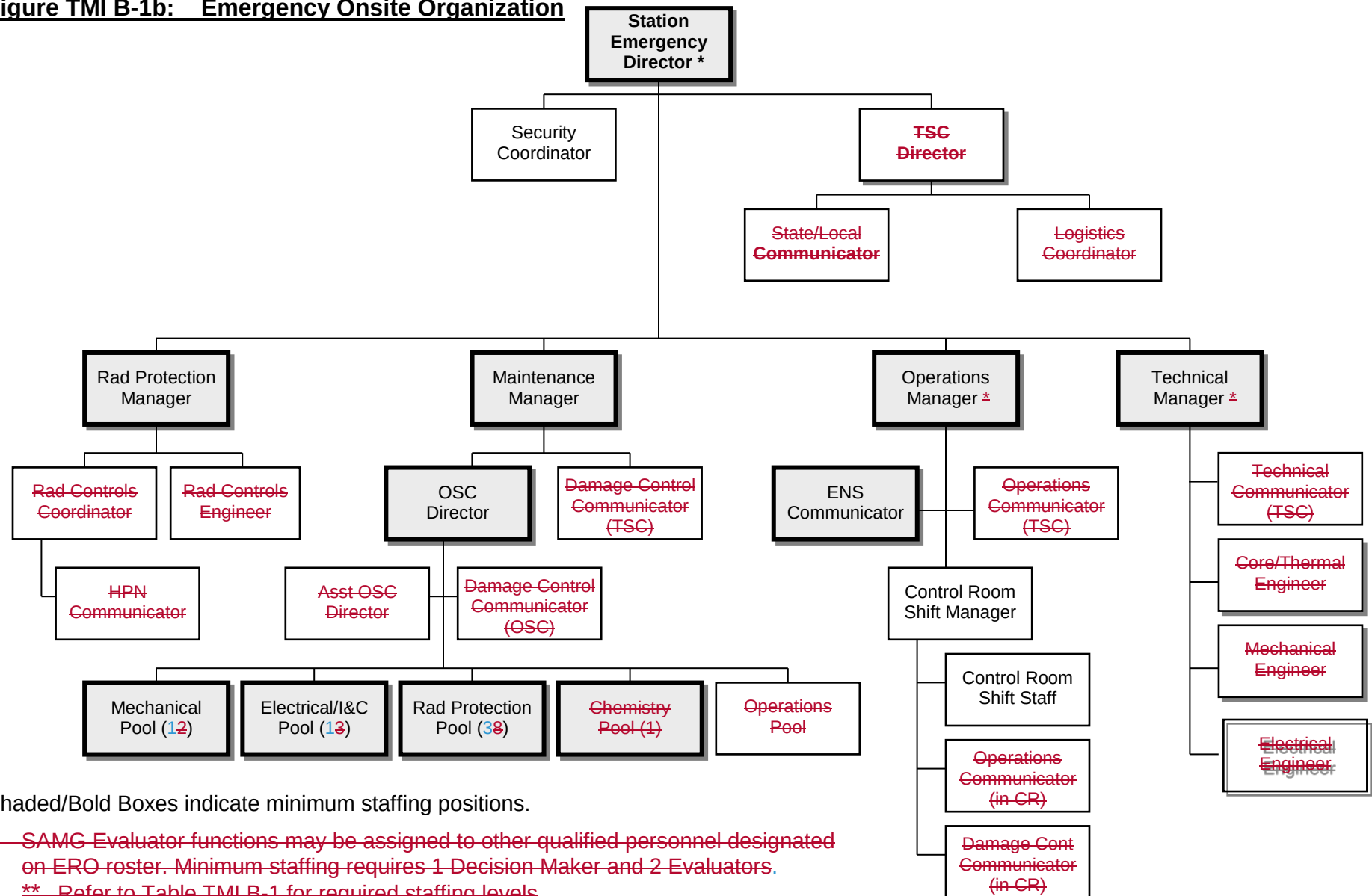
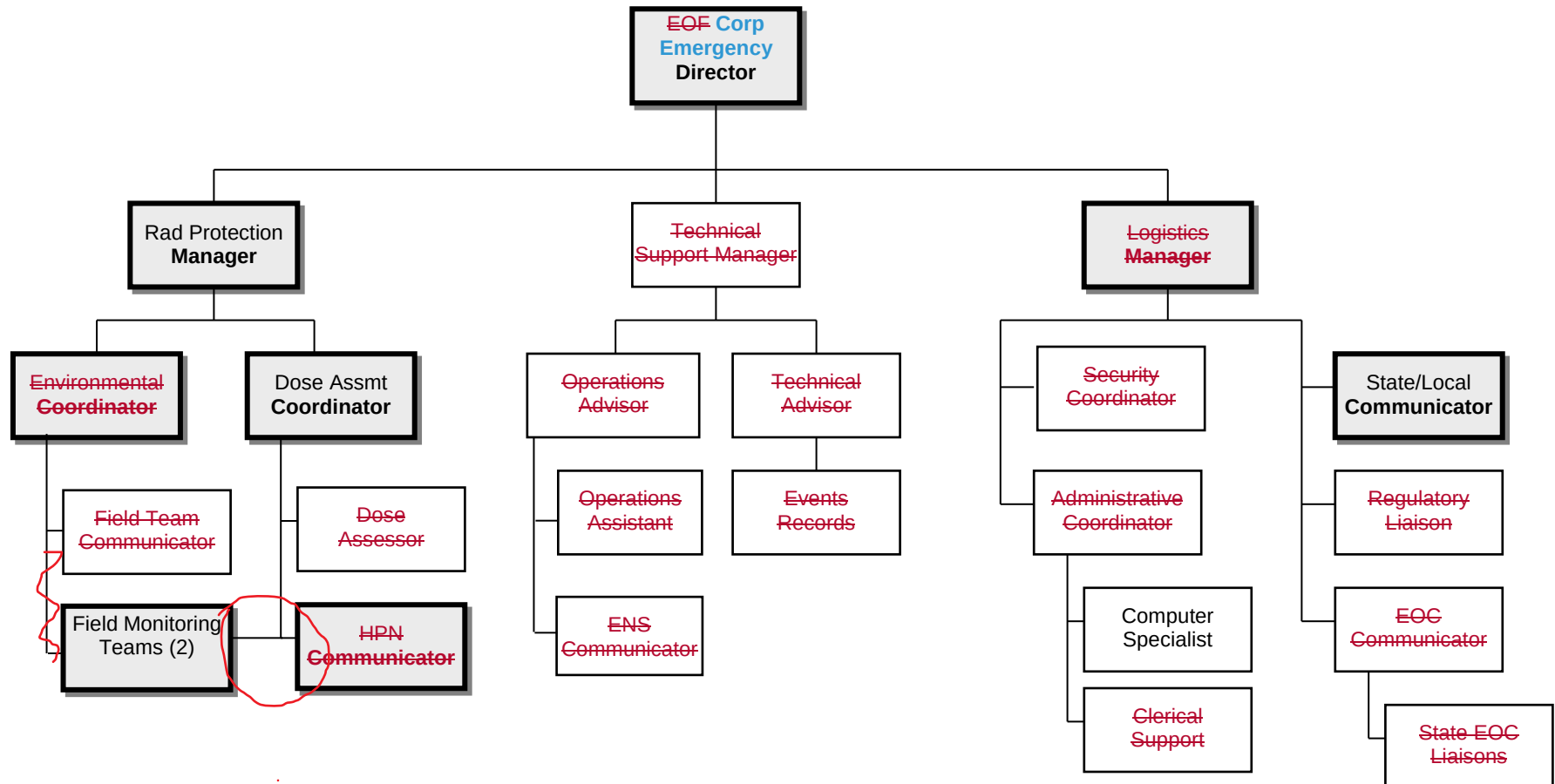
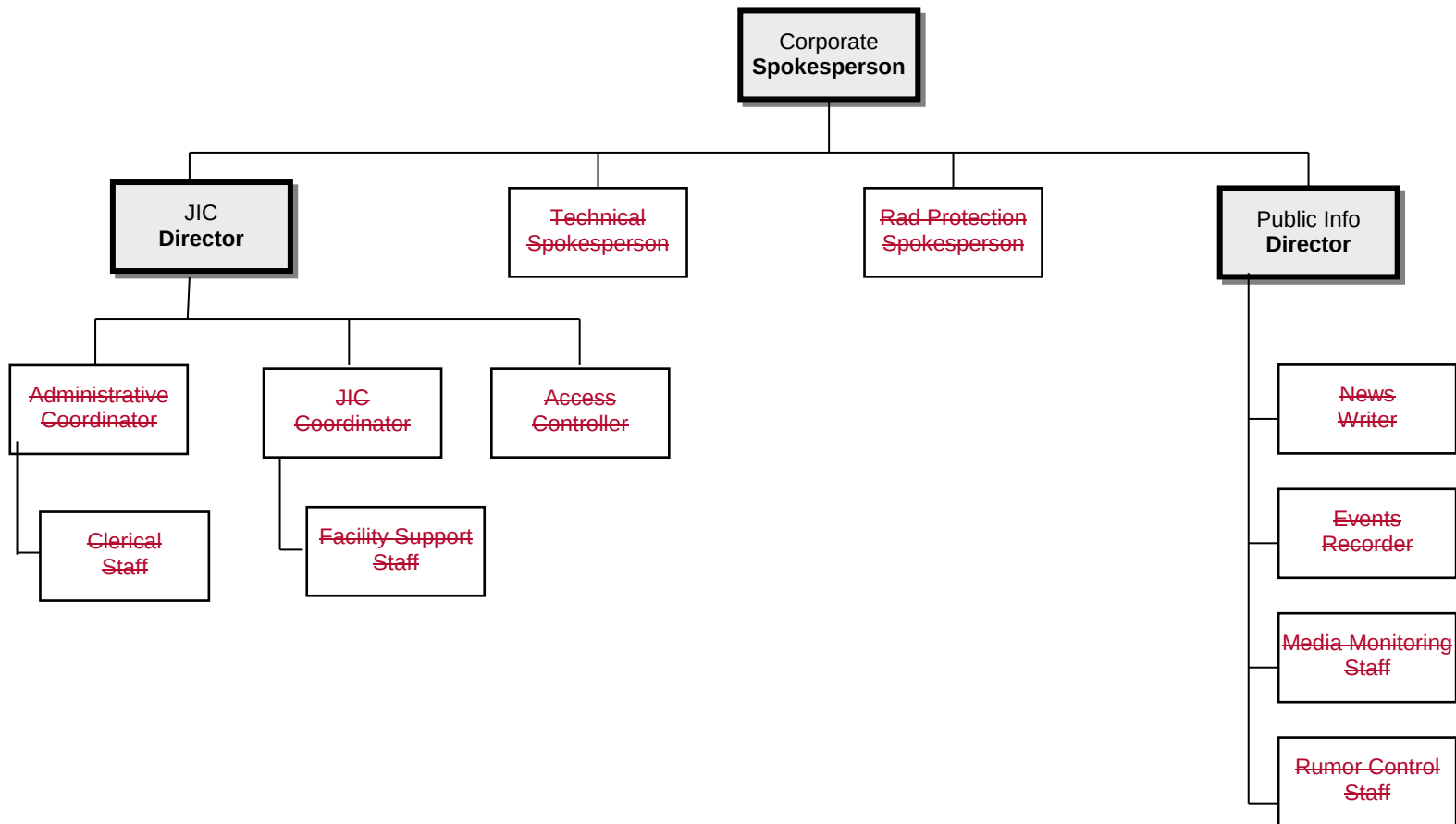
Figure TMI B-1b: Emergency Onsite Organization

Figure TMI B-1c: Emergency Offsite Organization

Shaded/Bolded Boxes indicate minimum staffing positions.

Figure TMI B-1d: Emergency Public Information Organization

Shaded/Bolded Boxes indicate minimum staffing positions.

Section C: Emergency Response Support and Resources

This section describes the provisions for requesting and effectively utilizing support resources and for accommodating offsite officials at the Exelon Nuclear emergency response facilities.

1. Federal Response Support and Resources

Assistance is available from federal agencies through the National Response Framework (NRF). The lead federal agency who provides direct assistance to Exelon during an emergency is the Nuclear Regulatory Commission (NRC). Other federal agencies, such as the Federal Emergency Management Agency (FEMA) and the Department of Energy (DOE), provide assistance to the state through implementation of the NRF.

- a. Sections A and B of this plan identify the specific individuals by title who are authorized to request federal assistance.
- b. Federal agencies that may provide assistance in direct support of Exelon Nuclear in the event of an accident are identified in Section A of this plan. If needed, federal resources are made available to Exelon Nuclear in an expeditious and timely manner.
- c. Each emergency response facility has the equipment and communications capability necessary for a continuous high level of response, interaction, and communication among key personnel during emergency conditions. The emergency facilities are able to accommodate federal representatives with working areas provided for their use. Accommodations for the expected NRC site response team assume the following approximate numbers for each facility:

	Initial Activation (minimum)	Full Activation
EOF	9	16
TSC	3	5
CR	1	1
JIC	1	10

The Exelon Emergency Response Organization will provide senior management support for site response teams and communications over a Management Counterpart Link to federal response headquarters.

2. Liaisons

- a. The NRC, FEMA, and the state may dispatch representatives to the EOF where accommodations have been provided.
- b. At the Alert level and above, Exelon Nuclear personnel may be assigned as liaisons to the requesting state and/or county Emergency Operations Center (EOC). These representatives act as technical liaisons to interpret emergency action levels and protective action recommendations made by Exelon.

3. Radiological Laboratories

Support of the radiation monitoring and analysis effort is provided by an onsite laboratory. The onsite laboratory is the central point for receipt and analysis of all onsite samples and includes equipment for chemical analyses and for the analysis of radioactivity. Additional facilities for counting and analyzing samples can be provided by the other Exelon Nuclear generating stations, state, federal or contracted laboratory services. These laboratories can act as backup facilities in the event that the plant's counting room and laboratory become unusable or the offsite radiological monitoring and environmental sampling operation exceeds the capacity or capability of the station laboratory during an emergency. Additional outside analytical assistance may be requested from contracted vendors or state and federal agencies. The equipment and analytical capabilities for Three Mile Island laboratories are listed in the Station Annex. The state, federal and contract laboratories maintain independent evaluation and certification processes and have the capability of quantitative analysis of terrestrial, marine and air samples.

4. Other Assistance

Any unaffected Exelon Nuclear Generating station is available to provide certain types of assistance and support, including engineering, design, consultation, whole body counting, and dosimetry evaluation and equipment. Additional facilities, organizations, and individuals, as listed in the Emergency Response Facilities (ERF) Telephone Directory, are available and may be used in support of emergency response. In addition, American Nuclear Insurers (ANI) provides insurance to cover Exelon legal liability up to the limits imposed by the Price-Anderson Act, for bodily injury and/or property damage caused by the nuclear energy hazard resulting from an incident at the plant. Written agreements which describe the level of assistance and resources provided to Exelon Nuclear by external sources are included in Appendix 3 as applicable.

Section D: Emergency Classification System

This section describes the classification and emergency action level scheme used to determine the minimum response to an abnormal event at Three Mile Island. This scheme is based on plant systems, effluent parameters, and operating procedures. The initial response of federal, state, and county agencies is dependent upon information provided by the ERO. Exelon works closely with the state and county agencies to ensure consistency in classification schemes and procedural interfaces.

1. Emergency Classification System

The E-Plan provides for classification of emergencies into five (5) categories or conditions, covering the postulated spectrum of emergency situations. The first four (4) categories: Notification of Unusual Event (referred to as Unusual Event), Alert, Site Area Emergency, and General Emergency, are characterized by Emergency Action Levels (EALs) or event initiating conditions and address emergencies of increasing severity. The fifth, the Recovery classification, is unique in that it may be viewed as a phase of the emergency requiring specific criteria to be met and/or considered prior to its declaration. Recovery is that period when the emergency phase is over and activities are in progress to return the situation to a normal state (acceptable condition).

- a. Unusual Event - Events are in process or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

This is the least severe of the four (4) levels. The purpose of this classification is to bring response personnel and offsite agencies to a state of readiness in the event the situation degrades and to provide systematic handling of information and decision making. The Shift Manager, as Shift Emergency Director will classify an Unusual Event.

Required actions at this classification include:

- Notifications to station management and the NDO.
- Notification, within 15 minutes, of the state and local communities.
- At the discretion of the Emergency Director, station management or the Nuclear Duty Officer (NDO), full or selective staffing of the TSC, OSC, and EOF may be initiated.
- Notification of the NRC immediately after notification of the appropriate State and local agencies and not later than 60 minutes of classification.
- Assessment of the situation and response as necessary, which may include escalating to a higher classification if conditions warrant.

- When the event is terminated, close-out is performed over communication links to offsite authorities participating in the response (i.e., NRC, state, county), followed by formal transmission of a state/local notification form within 24 hours.
- b. Alert - Events are in process or have occurred which indicate an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life-threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of EPA Protective Action Guideline exposure levels.

The purpose of this classification is to ensure that emergency response personnel are readily available and to provide offsite authorities with current status information. An Alert will be classified as the initiating event or as escalation from an Unusual Event. In either case, the classification will most likely be made by the Shift Manager (Shift Emergency Director) prior to the transfer of Command and Control.

Required actions at this classification include:

- Notifications to station management and the NDO.
- Notification, within 15 minutes, of the state and local communities. The EOF will assume state update responsibilities.
- Activation of the TSC, OSC, EOF, and the JIC organizations.
- Transfer of Command and Control.
- Notification of the NRC immediately after notification of the appropriate State and local agencies and not later than 60 minutes of classification.
- Notification of ~~INPO and~~ ANI.
- Assessment of the situation and response as necessary, which may include escalating to a higher classification if conditions warrant.
- On-site and off-site Field Monitoring Teams are sent to staging areas or dispatched to monitor for releases of radiation to the environment.
- Keeping offsite authorities informed of plant status by providing periodic updates to include meteorological and radiological data.
- When the event is terminated, notification is performed over communication links followed by an Initial Incident Report to offsite authorities participating in the response (i.e., NRC, state, county) within 8 hours.

- c. Site Area Emergency - Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts; 1) toward site personnel or equipment that could lead to the likely failure of or; 2) that prevent effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the site boundary.

The purpose of this classification, in addition to those of the Alert level, is to ensure that all emergency response centers are staffed and provisions are made for information updates to the public through offsite authorities and the news media. The classification will most likely be made by the Station Emergency Director following activation of the TSC.

Required actions at this classification, in addition to those listed under the Alert level, include:

- If not previously performed, Assembly/Accountability shall be performed and Site Evacuation of non-essential personnel shall be initiated.
- Keeping offsite authorities informed of plant status by providing periodic updates to include meteorological data and projected or actual doses for any releases that have occurred.

- d. General Emergency - Event(s) are in process or have occurred which involve actual or imminent substantial ~~core-fuel~~ degradation or melting ~~with potential for loss of containment integrity~~ or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

The purpose of this classification, in addition to those of the Site Area Emergency level, is to initiate predetermined protective actions for the public and provide continuous assessment of information from monitoring groups. The classification will most likely be made by the Station Emergency Director following activation of the TSC.

Required actions at this classification, in addition to those listed under the Alert and Site Area Emergency, include:

- A Protective Action Recommendation will be determined.
- Assessment of the situation and response as necessary.

- e. Recovery: That period when the emergency phase is over and activities are being taken to return the situation to a normal state (acceptable condition). The plant is under control and no potential for further degradation to the plant or the environment is believed to exist.

Recovery will be classified by the Station Emergency Director after obtaining authorization from the Corporate Emergency Director.

Required actions at this classification include:

- The affected state(s) and the NRC should be consulted prior to entry into Recovery.
 - Notifications will be made to station management, the NDO, state(s) and NRC.
 - A Recovery organization will be established to manage repairs to return the Unit to an acceptable condition, and support environmental monitoring activities as requested in coordination with Federal and state efforts.
 - ~~INPO and~~ ANI ~~are~~ is notified of Recovery classification.
- f. Classification Downgrading: Exelon Nuclear policy is that emergency classifications shall not be downgraded to a lower classification. Once declared, the event shall remain in effect until no Classification is warranted or until such time as conditions warrant classification to Recovery.
- g. Guidance for Termination of an Emergency: The purpose of terminating an emergency is to provide an orderly turnover of plant control from the Emergency Response Organizations to the normal Exelon Nuclear plant organization. Termination of the emergency is authorized by the Emergency Director in Command and Control. The considerations provided in the Recovery/Termination Checklist in the emergency implementing procedures must be performed prior to exiting the emergency event. Consultation with governmental agencies and other parties should be conducted prior to termination of an event classified as Site Area or General Emergency. Notifications shall be transmitted to appropriate agencies to terminate an event.
- h. Station Nuclear Security Plan: Three Mile Island has a Security Plan that complies with the requirements of 10 CFR 73. The interface between the E-Plan and the Security Plan is one of parallel operation. The plans are compatible. The E-Plan response measures, once initiated, are executed in parallel with measures taken in accordance with the Security Plan.

Threats made to Three Mile Island are evaluated in accordance with established threat assessment procedures and the Security Plan. The Security Plan, Appendix C, Contingency Events, identifies situations that could be initiating conditions for EAL classifications. Contingency events include bomb threats, attack threats, civil disturbances, protected area intrusions, loss of guard/post contact, vital area intrusions, bomb devices discovered, loss of guard force, hostages, extortion, fire/explosions, internal disturbances, security communications failure, and obvious attempts of tampering. The Security Plan provides guidance for decisions and actions to be taken for each security contingency event. As guidance, the Security Plan allows for differing responses depending upon the assessment of the actual situation within each contingency event classification.

The assessment of any security contingency event and the decision to initiate, or not to implement the E-Plan, will be the responsibility of the Shift or Station Emergency Director. All identified security contingency events have the potential of being assessed as initiating conditions for a radiological emergency declaration.

Determination of a credible security threat may require the staffing of emergency response facilities based on the classification of an Unusual Event per the Emergency Action Levels (EALs).

2. Emergency Action Level Technical Bases

Addendum 3 to the Station Annex includes Site Specific Emergency Action Levels (EALs) consistent with the general class descriptions and provided in NEI guidance documentation in accordance with Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors." Where possible, these EALs will be related to plant instrumentation readings.

Emergency classifications are characterized by Emergency Action Levels (EALs). The Threshold Values are referenced whenever an Initiating Condition is reached. An Initiating Condition is one of a predetermined subset of unit conditions where either the potential exists for a radiological emergency, or such an emergency has occurred. Defined in this manner, an Initiating Condition is an emergency condition, which sets it apart from the broad class of conditions that may or may not have the potential to escalate into a radiological emergency. Initiating Conditions are arranged in one of the Recognition Categories.

EALs are for unplanned events. A planned evolution involves preplanning to address the limitations imposed by the condition, the performance of required surveillance testing, and the implementation of specific controls prior to knowingly entering the condition. Planned evolutions to test, manipulate, repair, perform maintenance or modifications to systems and equipment that result in an EAL Threshold Value being met or exceeded are not subject to classification and activation requirements as long as the evolution proceeds as planned. However, these conditions may be subject to the reporting requirements of 10 CFR 50.72.

An emergency is classified after assessing abnormal plant conditions and comparing them to EAL Threshold Values for the appropriate Initiating Conditions. Matrix tables organized by recognition categories are used to facilitate the comparison. ~~The matrix tables are used when the unit is in the Technical Specification defined modes of Power Operations, Hot Standby, Hot Shutdown (for classification purposes, startup evolutions are included in the Power Operations mode) and Cold Shutdown or Refueling (for classification purposes a defueled plant will be considered in the Refueling mode).~~

All recognition categories should be reviewed for applicability prior to classification. The initiating conditions are coded with a letter and/or number designator. All initiating conditions, which describe the severity of a common condition (series), have the same initial designator.

3. Timely Classification of Events

Classification of an emergency condition occurs within 15 minutes after the availability of indications from plant instrumentation, plant alarms, computer displays, or incoming verbal reports that an EAL has been exceeded and, is then promptly made upon identification of the appropriate EAL. The 15-minute period encompasses all assessment, classification, and declaration actions associated with making an emergency declaration from the first availability of a plant indication or receipt of a report up to and including the declaration of the emergency.

Validation or confirmation of plant indications or reports of the condition are to be accomplished within the 15-minute period as part of the assessment. Since this validation or confirmation is being performed to determine the validity of an alarm, indication, or report, the 15-minute period starts with the availability of the alarm, indication, or report to any qualified EAL assessor, and not the completion of the validation or confirmation, because the former is the time that the information was first available.

A qualified EAL assessor means any member of the plant staff who, by training and experience, is qualified to assess the indications or reports for validity and to compare the same to the EALs. A qualified EAL assessor may be, but need not be, a licensed operator or member of the ERO. Qualified EAL assessors may be in the MCR or in another facility where emergency declarations are performed. A qualified EAL assessor does not include personnel such as chemists, radiation protection technicians, craft personnel, security personnel, and others whose positions require they report, rather than assess, abnormal conditions to the MCR.

The 15-minute criterion ends as soon it is determined that an EAL has been exceeded and upon identification of the appropriate Emergency Classification Level (ECL) and when the Emergency Director makes the emergency declaration. The emergency condition should be declared as soon as possible following the identification of the appropriate ECL. As used here, “promptly” means the next available opportunity unimpeded by activities not related to the emergency declaration, unless such activities are necessary for protecting health and safety.

The 15-minute criterion is not to be construed as a grace period in which attempts to restore plant conditions are taken to avoid declaring an EAL that has already been exceeded. This statement does not preclude taking actions to correct or mitigate an off-normal condition, but once an EAL has been recognized as being exceeded, the emergency declaration shall be made promptly without waiting for the 15-minute period to elapse. The 15-minute criterion shall not prevent the implementation of response actions deemed necessary to protect public health and safety provided that any delay in the declaration would not deny the State and local authorities the opportunity to implement measures necessary to protect the public health and safety.

For EAL thresholds that specify duration of the condition, the emergency declaration process runs concurrently with the specified threshold duration. Once the condition has existed for the duration specified in the EAL or it is determined that the duration time will likely be exceeded, no further assessment is necessary—the EAL has been exceeded.

4. Offsite Classification Systems

Exelon Nuclear works with the state to ensure consistency between classification schemes. The content of the EALs is reviewed with the state and county authorities on an annual basis.

5. Offsite Emergency Procedures

Exelon Nuclear works with the state and county authorities to ensure that procedures are in place that provide for emergency actions to be taken which are consistent with the protective actions recommended by Exelon accounting for local offsite conditions that exist at the time of the emergency.

Section E: Notification Methods and Procedures

This section describes the notification of state and county response organizations and Exelon emergency response personnel. It outlines the content of initial and follow-up messages to response organizations within the Plume Exposure Pathway Emergency Planning Zone (EPZ).

1. Bases for Emergency Response Organization Notification

Exelon Nuclear, in cooperation with state and county authorities, has established mutually agreeable methods and procedures for notification of offsite response organizations consistent with the emergency classification and action level scheme. Notifications to offsite agencies include a means of verification or authentication such as the use of dedicated communications networks, verification code words, or providing call back verification phone numbers.

Notification for Transportation Accidents: A Transportation Accident is defined in 49 CFR 171.15 and 49 CFR 171.16. If a Transportation Accident involving material in the custody of an Exelon facility occurs, Exelon Nuclear will notify the appropriate internal and offsite agencies in accordance with the Exelon Nuclear Reportability Manual.

2. Notification and Mobilization of Emergency Response Personnel

Emergency implementing procedures are established for notification and mobilization of emergency response personnel as follows:

- a. Onsite: When an emergency is declared, reclassified, or terminated an announcement is made (over the plant public address system or by other means) that includes the emergency classification declared and response actions to be taken by site personnel.

At the Unusual Event classification, select ERO augmentation personnel are notified and requested to remain available to respond. At an Alert classification or higher ERO augmentation personnel are notified for activation of the TSC, OSC, EOF, and JIC using the ERO Notification System.

- b. Offsite: Notifications are promptly made to offsite emergency response organizations as follows:

- 1) State/Local Agencies: A notification shall be made within fifteen (15) minutes of:

- The initial emergency classification.
- Classification escalation.
- The issuance of or change to a Protective Action Recommendation (PAR) for the general public.

- Changes in radiological release status, occurring outside of an event classification or PAR notification, based on an agreement with the state(s).

The emergency warning points are simultaneously notified using the Nuclear Accident Reporting System (NARS), or a commercial telephone line as backup.

A notification will also be initiated to cognizant state/local government agencies as soon as possible but within one hour of the termination of an event classification, or entry into Recovery Phase.

- 2) Nuclear Regulatory Commission (NRC): An event will be reported to the NRC Operations Center immediately after notification of the appropriate state or local agencies but not later than one (1) hour after the time of initial classification, escalation, termination or entry into the Recovery Phase. The NRC is notified by a dedicated telephone system called the Emergency Notification System (ENS). If the ENS is inoperative, the required notification is made via commercial telephone service, other dedicated telephone service, or any other method that shall ensure that a report is made as soon as practical. An NRC Event Notification Worksheet should be utilized to transmit initial information to the NRC. If a continuous communication is requested and established, a log is used in lieu of the ENS Worksheet.

Specific requirements for the notifications to the NRC for classified emergency events are detailed in 10 CFR 50.72 with guidance provided in the Exelon Reportability Manual.

~~The computerized data link to the NRC, referred to as the Emergency Response Data System (ERDS), continuously supplies specified plant data to the NRC.~~

Mobilization of federal, state, and county response organizations is performed in accordance with their applicable emergency plan and procedures. At a minimum, mobilization of federal response organizations and activation of state and county EOCs is expected to occur at the declaration of a Site Area Emergency.

The state and county authorities are responsible for the process of notification of the general public.

- c. Support Organizations: When an emergency is initially classified, escalated or terminated, notifications are promptly made to the following support organizations:
 - Medical, rescue, and fire fighting support services are notified for assistance as the situation dictates.
 - ~~• The Institute of Nuclear Power Operations (INPO) is notified at an Alert or higher classification with requests for assistance as necessary.~~
 - The American Nuclear Insurers (ANI) are notified at an Alert or higher classification with requests for assistance as necessary.

- Vendor and contractor support services are notified for assistance as the situation dictates.

3. Initial Notification Messages

Exelon Nuclear, in conjunction with state and county authorities, has established the contents of the initial notification message form transmitted during a classified emergency. The contents of the form include, as a minimum:

- Designation ("This is a Drill" or "Actual Event").
- Identity of site.
- Event classification.
- EAL number (as agreed upon with state authorities).
- Non-technical event description (as agreed upon with state authorities).
- Date and time of declaration (or entry into Recovery or Termination).
- Whether a release is taking place (Note: "Release" means a radiological release attributable to the emergency event.)
- Wind direction and speed.
- Whether offsite protective measures may be necessary.
- Potentially affected Subareas (or Sectors as applicable) when a General Emergency is declared.

Notification approval, transmittal date and time, and offsite agencies contacted are recorded either on the notification form or in an event logbook.

4. Follow-up Messages

For all emergency classifications, update messages to state authorities will be provided at the time of the notification on a prearranged frequency. The facility in Command and Control is responsible for ensuring that the updates are completed. State updates contain the prearranged information plus any additional information requested at the time of the notification.

Follow-up notifications are provided to the NRC Operations Center as soon as possible, but not later than one (1) hour after significant new information is available involving:

- a. The results of evaluations or assessments of plant conditions.
- b. The effectiveness of response or protective measures taken.
- c. Information related to plant behavior that is not understood.

If requested by the NRC, an open, continuous communications channel will be maintained with the NRC Operations Center over the Emergency Notification System (ENS) and/or Health Physics Network (HPN) Circuits.

5. State and County Information Dissemination

The state and county emergency response plans describe procedures for state and county officials to make a public notification decision promptly (within about 15 minutes) on being informed by the plant of an emergency. The system for disseminating information to the public includes notification by pre-scripted messages through appropriate broadcast media such as the Emergency Alert System (EAS).

6. Notification of the Public

The capability exists for the prompt notification of the general public within the Plume Exposure Pathway Emergency Planning Zones (EPZs) for Three Mile Island covered under this plan.

This notification capability consists of two principal elements: (1) the Alert and Notification Systems (ANS) and (2) the Emergency Alerting System (EAS) radio stations.

- The Alert and Notification System (ANS) consists of fixed sirens used as a primary means of notification. Activation of the ANS sirens by the civil authorities will alert the public to turn on their radios to a local EAS radio station for detailed information on the emergency situation. A backup means of notification is provided and is described within the Station Annex.
- The Emergency Alerting System (EAS) is a network of local radio stations prepared to transmit or relay emergency information and instructions from the civil authorities to the general public.

The ANS is operated by local governmental agencies and maintained by Exelon Nuclear. To assure the ANS is maintained in an operational readiness posture, the local agencies have agreed to test the system (by sounding the sirens) on a periodic basis that meets or exceeds FEMA guidance and to report inoperable equipment to EP-designated maintenance personnel. The goal of the testing and maintenance program is to identify inoperable equipment in a timely manner and to restore equipment to a functional status commensurate with FEMA operability requirements as referenced in FEMA-REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants" Section E.6.2.1. In addition to this routine test and repair program, preventive maintenance of the ANS will be performed on an annual basis.

A more site-specific description of the various prompt public notification systems is presented in the Station Annex to the E-Plan. The activation of the ANS sirens, deployment of emergency service vehicles and operation of the Emergency Alerting System is discussed in detail in the state specific response plans.

7. Messages to the Public

The respective States have developed EAS messages for the public consistent with the classification scheme. These draft messages are included as part of the States' Emergency Plan and contain instructions with regard to specific protective actions to be taken by occupants and visitors of affected areas. Messages may include instructions such as: take shelter and go indoors, close windows and doors, turn off ventilation systems; directions given for evacuation; directions to stay tuned to specific stations for further information, ad-hoc respiratory protection, (e.g. handkerchief over mouth, etc.). Exelon will provide support for the content of these messages when requested. The States control the distribution of radioprotective drugs to the general public.

Section F: Emergency Communications

This section describes the provisions utilized for prompt communications among principal emergency response organizations, communications with the ERO and communications with the general public.

1. Communications/Notifications

Exelon Nuclear has extensive and reliable communication systems installed at Three Mile Island and Corporate Headquarters. Examples of the communications network include systems such as normal and dedicated telephone lines on landlines, microwave and fiber-optic voice channels, cell phones, satellite phones, mobile radio units, handi-talkies and computer peripherals. This network provides:

- Voice communication through normal telephone, dedicated line and automatic ring-down between selected facilities, conference call capability, speaker phones, and operator assistance where required.
- Communications between selected Exelon vehicles and appropriate fixed locations, as well as with state mobile units and fixed locations.
- Facsimile, network, and modem transmission.

Figure F-1 depicts the initial notification paths and the organizational titles from the Exelon Nuclear Emergency Response Facilities (ERFs) to federal, state and local emergency response organizations, and industry support agencies. The Exelon primary and alternate methods of communication, and the NRC communications network, are illustrated on Figures F-2 and F-3.

- a. Exelon Nuclear maintains the capability to make initial notifications to the designated offsite agencies on a 24-hour per day basis. The offsite notification system, referred to as the Nuclear Accident Reporting System (NARS) provides communications to state and county warning points and Emergency Operations Centers from the CR, TSC, and EOF. Backup methods include facsimile and commercial telephone lines. state and county warning points are continuously staffed.
- b-d. Exelon Nuclear has established several dedicated communication systems that ensure reliable and timely exchange of information necessary to provide effective Command and Control over any emergency response; (1) between Exelon and state and local agencies within the EPZs, (2) with federal emergency response organizations, (3) between the plant, the EOF, and the state and county EOCs, and (4) between Emergency Response Facilities and Field Monitoring Teams. A general description of the systems is as follows:

- 1) Nuclear Accident Reporting System (NARS): The NARS is a dedicated communications system that has been installed for the purpose of notifying state and local authorities of declared nuclear emergencies. This system links together the station Control Rooms, the EOF, TSCs and state and local authorities as appropriate. The specific design, operation, and responsibility for maintenance of the NARS systems vary between Exelon Nuclear regions.
- 2) Damage Control Line: A dedicated telephone link called the Damage Control Line that enables communication between the Control Room, the TSC and the OSC to coordinate the dispatching of emergency damage control teams from the OSC (see Figure F-2).
- 3) Operations Status Line: A dedicated telephone link called the Operations Status Line that enables communication between the Control Room, the TSC and the EOF to monitor the activities of the Control Room staff (see Figure F-2).
- 4) Technical Conference Line: A dedicated telephone line called the Technical Conference Line between the TSC and the EOF to communicate mitigating activities and priorities for the station to the EOF (see Figure F-2).
- 5) Director's Hotline: A dedicated telephone link called the Director's Hotline that enables direct Emergency Director communication between the Control Room, TSC, and the EOF (see Figure F-2).
- 6) Private Branch Exchange (PBX) Telephone System: The PBX telephone system provides communication capability between telephones located within the plant. The PBX is used to connect the CR, TSC, EOF, and OSC. The PBX telephone system also provides for outside communications through interconnections with the corporate telephone communications system and commercial telephone lines.
- 7) Local Commercial Telephone System: This system provides standard commercial telephone service through the public infrastructure, consisting of central offices and the wire line and microwave carrier. The commercial telephone system includes connections to PBX, emergency telephone system, dedicated lines to emergency facilities, and lines to the JICs. The commercial vendor provides primary and secondary power for their lines at their central office.
- 8) ~~Emergency Response Data System (ERDS): ERDS will continuously supply the NRC with selected plant data points on a near real time basis. The selected data points are transmitted automatically to the NRC at approximately 1-minute intervals.~~

89)Field Monitoring Team (FMT) Communications: A separate communications system has been installed to allow coordinated environmental monitoring and assessment during an emergency. This system consists of the necessary hardware to allow communication between the Control Room, TSC, EOF, and mobile units in Exelon Nuclear vehicles. Though direct communications between the Control Room and the FMTs is not required per the prescribed methods of FMT coordination, the FMTs can be contacted from equipment in the Control Room if required. Commercial cell phones or other means are available as back up to the primary field team communications system.

In addition, station communication links exist to ensure appropriate information transfer capabilities during an emergency. The station may also utilize its Public Address System, station radios and notification devices to augment its emergency communications.

- e. ERO Notification System: Exelon Nuclear utilizes an automated ERO Notification System to rapidly notify members of the ERO. The system consists of a network of physical infrastructure capable of initiating and receiving contact via multiple notification devices. When activated, the system contacts the notification devices (e.g., through commercial and cellular phone, email, text message) belonging to members of the ERO. The System includes redundant activation methods via the internet, call-centers, or direct telephone activation, as well as redundant, geographically separated call centers and data centers, with redundant power sources. Implementing procedures specify the course of action to be taken if the primary ERO Notification System activation path fails to respond. The ERO Notification System provides primary and back-up notification functions.
- f. NRC Communications (ENS and HPN)

Communications with the NRC Operations Center will be performed via the NRC ENS and HPN circuits or commercial telephone line. Information is normally communicated from an approved NRC Event Notification Worksheet prior to establishing an open ENS and/or HPN line.

Installation and use of these NRC telephones is under the direction of the NRC (see Figure F-3).

Emergency Notification System (ENS): Dedicated telephone equipment is in place between the Control Room and the NRC, with an extension of that line in the TSC. A separate line is available in the EOF with the capability of being patched with the station through the NRC. This line is used for NRC event notifications and status updates.

Health Physics Network (HPN): There also exists a separate dedicated telephone between the NRC, the TSC, and EOF for conveying health physics information to the NRC as requested or as an open line.

2. Medical Communications

Communications are established with the primary and backup medical hospitals and transportation services via commercial telephone that is accessed by station personnel.

3. Communications Testing

Communications equipment is checked in accordance with Section H.10. Communications drills between Exelon Nuclear and state and county government facilities are conducted in accordance with Section N.2.a. In addition, minimum siren testing is performed in accordance with the site-specific siren Design Report.

Figure F-1: Exelon Notification Scheme (For Full Augmentation)

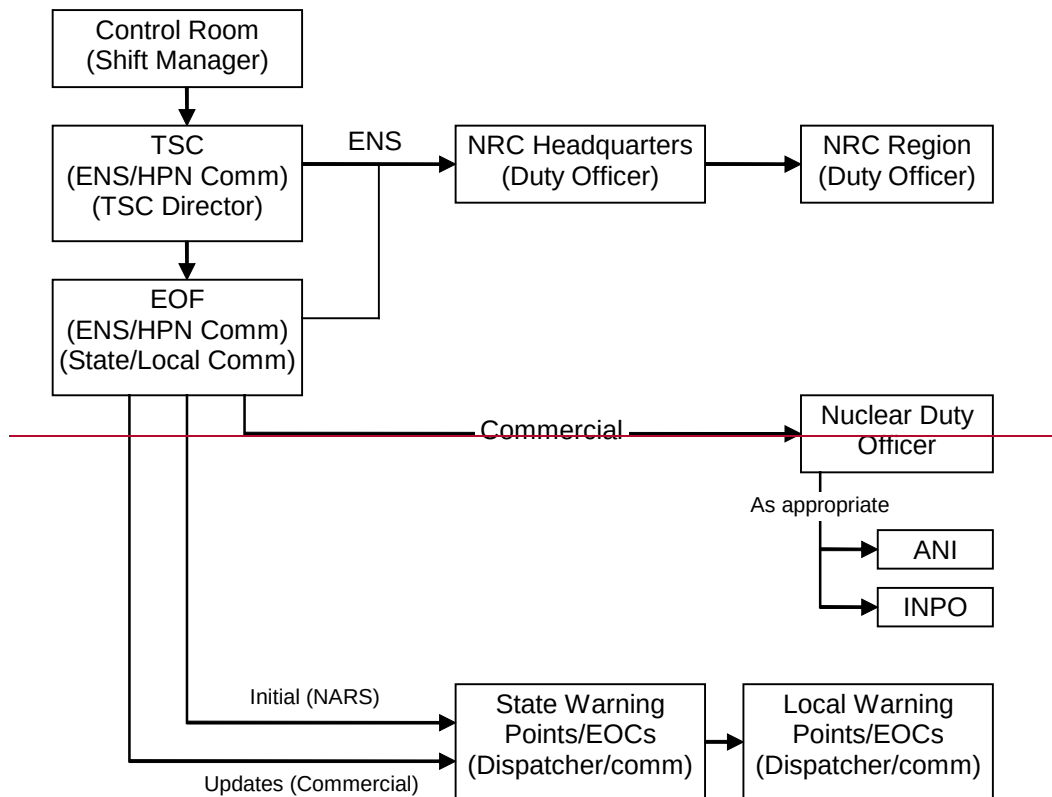
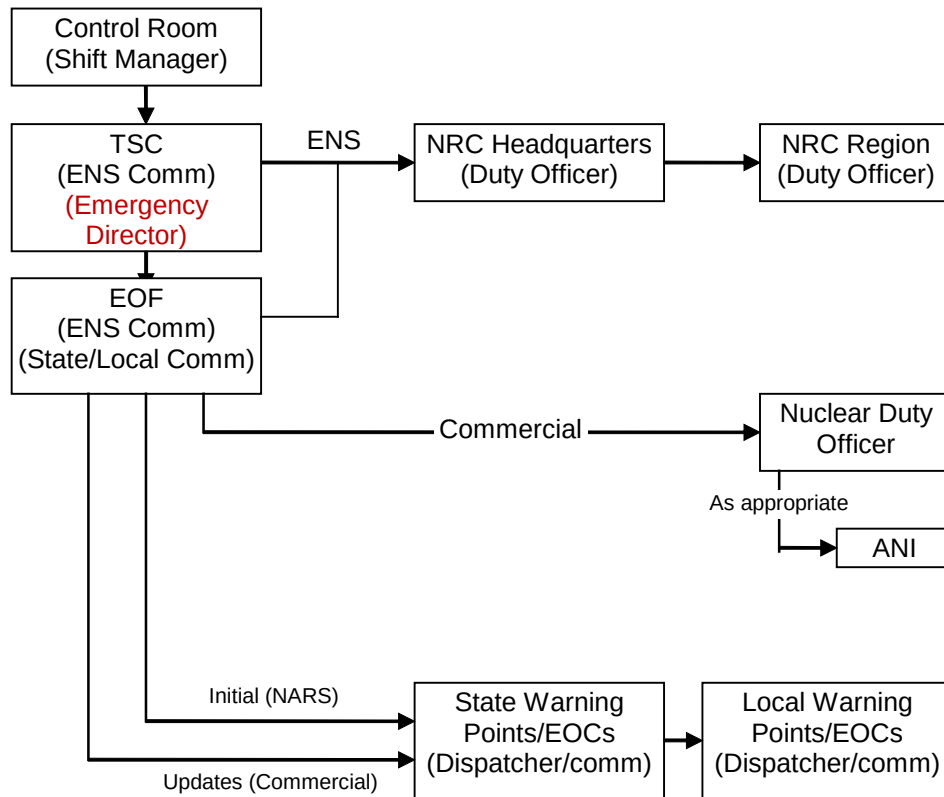
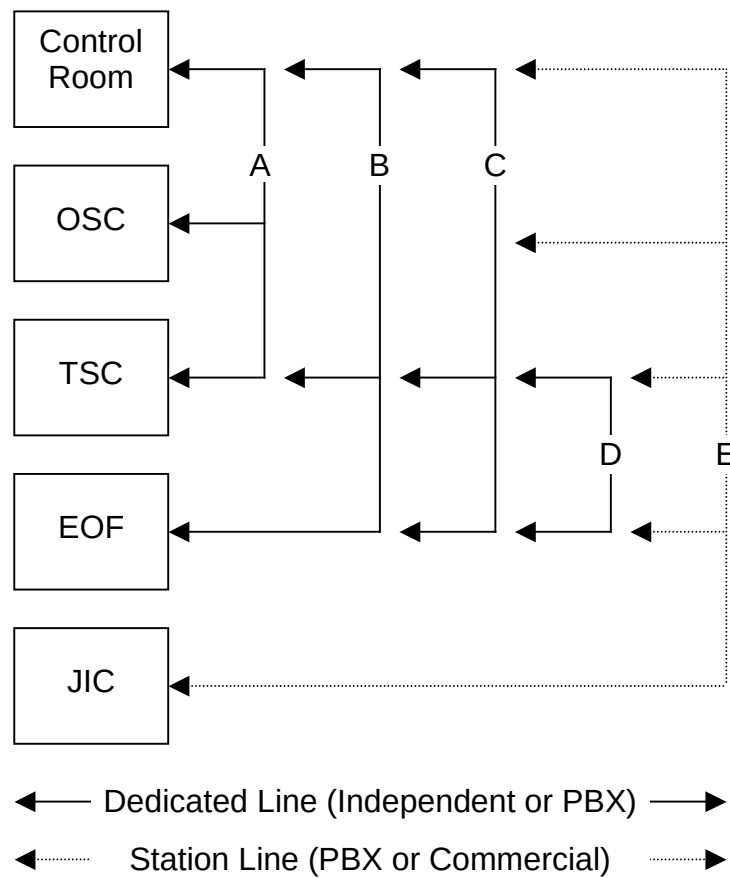


Figure F-2: ERF Communications Matrix

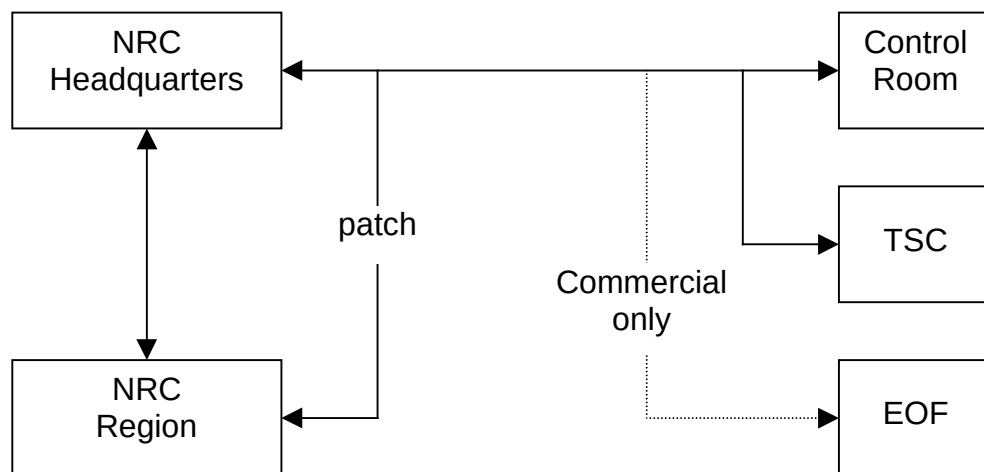
A = Damage Control Line between the OSC, TSC, and Control Room.

B = Directors Hotline line between the Control Room, TSC and EOF.

C = Operations Line between the TSC, Control Room and EOF.

D = Technical Conference Line between the TSC and EOF.

E = Station telephone line.

Figure F-3: NRC Communications for Nuclear Response

NOTE: ENS and HPN circuits may use the Federally maintained system, company tie lines or PBX as dedicated primary communications systems and have commercial backups.

Section G: Public Education and Information

This section describes the Exelon Nuclear public education and information program. It outlines the methods for distributing public information materials on an annual basis and describes how the public is informed in the event of an emergency.

1. Public Information Publication

The state has overall responsibility for maintaining a continuing disaster preparedness public education program. The emergency public information publication for the Exelon Nuclear generating stations is updated annually, in coordination with state and county agencies, to address how the general public is notified and what their actions should be in an emergency. Exelon distributes the publication on an annual basis by mail to all residents within the ten-mile plume exposure EPZs and to appropriate locations where a transient population may obtain a copy. The public information publication includes the following information:

- a. Educational information on radiation.
- b. A description of the times that require public notification (what to do if a take-shelter or evacuate recommendation is given).
- c. A map of major evacuation routes.
- d. A list of communities likely to serve as host shelter areas and instructions on how to obtain additional information, especially for the disabled or their caretakers and those without transportation.

2. Public Education Materials

Public information publications instruct the public to go indoors and turn on their radios when they hear the ANS sirens operating. These publications also identify the local radio stations to which the public should tune in for information related to the emergency.

3. Media Accommodations

- a. The Exelon Communications and Public Affairs Department is notified when an Unusual Event or higher Emergency condition exists. They will handle public and media inquiries in the early stages of the event (until the JIC is activated) by distributing background information, news releases, and providing information to corporate management.
- 1) The Emergency Public Information Organization: The Emergency Public Information Organization is part of the Corporate ERO. It may be activated at any time at the discretion of the Nuclear Duty Officer. However, when there is a procedural requirement to activate the EOF, the Emergency Public Information Organization shall also be activated.

The primary purpose of the Emergency Public Information Organization is to disseminate information from Exelon Nuclear's ERO about the emergency events to the public, via the news media. However, the authority for issuance of news releases for the classification of an Unusual Event or prior to ERO activation will always reside with the Exelon Communications and Public Affairs Department. Upon activation, the Emergency Public Information Organization has the responsibility and authority for issuance of news releases to the public.

The Emergency Public Information Organization is comprised of senior managers from Exelon Nuclear who will function as spokespersons, and other Exelon Nuclear individuals including personnel from the Governmental Affairs and Human Relations areas. Exelon Nuclear's spokespersons disseminate information to the news media/public concerning the emergency events out of a Joint Information Center (JIC).

- 2) The Joint Information Center (JIC): The JIC is the facility in which media personnel gather to receive information related to the emergency event. The JIC is the location where approved news releases will be provided to the media for dissemination to the public. News releases are coordinated between the EOF and JIC personnel and state and/or Federal representatives in the JIC. Exelon public information personnel operate from the EOF and the JIC, which is under the direction of the Corporate Spokesperson and functions as the single point contact to interface with Federal, state, and local authorities who are responsible for disseminating information to the public.

Each station has a designated JIC. Each JIC is equipped with appropriate seating, lighting and visual aids to allow for public announcements and briefings to be given to the news media. Additionally, JICs are equipped with commercial telephone lines for making outgoing calls. The Emergency Public Information Organization functions from the JIC and EOF in preparing and releasing utility information about the emergency event. The JIC is activated at the declaration of an Alert or higher classification. [Some JIC personnel may perform functions remotely from alternate locations while remaining in contact with personnel in the JIC facility \(e.g., media monitoring, rumor control, news writers, issuance of press releases\).](#) [The JIC Director and Corporate Spokesperson will ensure communication and coordination of these functions with the EOF and JIC staff.](#) Functions of the JIC include:

- Serving as the primary location for accumulating accurate and current information regarding the emergency conditions and writing news releases.
- Providing work space and phones for public information personnel from the state, counties, NRC, FEMA, and industry-related organizations.
- Providing telephones for use by the news media personnel.
- Providing responses to media inquiries through [Media Monitoring Staff](#) telephones that the media can call for information about an emergency.

- b. The news media is not permitted into the EOF during an emergency.

4. Coordination of Public Information

- a. The JIC is staffed by Exelon and government public information representatives who will be the source of public information during an emergency at the station. The Corporate Spokesperson is the primary spokesperson for Exelon Nuclear. The Corporate Spokesperson has direct access to all necessary information (see Section B.5).
- b. The JIC is staffed by federal, state, county, and utility personnel to assure timely, periodic exchange and coordination of information. Representatives coordinate information prior to conducting news briefings.
- c. Rumors or misinformation are identified during an emergency by the ~~media/rumor control-monitors~~JIC Staff. They respond to public and news media calls and monitor media reports.
- d. The JIC for the MA Region Three Mile Island, Limerick and Peach Bottom Stations is co-located with the EOF at 175 North Caln Road, Coatesville, Pennsylvania.

5. Media Orientation

Emergency Preparedness, in conjunction with Exelon Communications and Public Affairs Department, offers training (at least annually) to acquaint news media with the E-Plan, information concerning radiation, and points of contact for release of public information in an emergency. Training is provided for those media agencies that accept the training offer.

Section H: Emergency Facilities and Equipment

Onsite and offsite facilities are available for emergency assessment, communications, first aid and medical care, and damage control. Of particular importance are the Emergency Response Facilities (ERFs); the Control Room (CR), the Technical Support Center (TSC), the Operations Support Center (OSC), the Emergency Operations Facility (EOF), and the Joint Information Center (JIC).

This section describes the emergency facilities and equipment used by the Emergency Response Organization and outlines the requirements which aid in timely and accurate response actions. It also describes the surveillance programs used to monitor and ensure that these facilities and equipment are maintained in a high degree of constant readiness.

1. Control Room, Technical Support Center, and Operations Support Center

Three Mile Island has established a TSC and an on-site OSC, which are activated upon declaration of an Alert or higher classification. Until they become operational, required functions of these facilities are performed in the Control Room.

Under certain adverse conditions for Security-Based Events, personnel may be assembled in an "ERO Alternative Facility" prior to being dispatched to one of the facility ERFs.

- a. Station Control Room: The Control Room is the centralized onsite location from which the Nuclear Station's ~~reactors and major~~ plant systems ~~necessary to support the spent fuel pool~~ are operated. The Control Room is equipped with instrumentation to supply detailed information on the ~~reactors and major~~ plant systems. The Control Room is continuously staffed with qualified ~~licensed~~ operators. The Control Room is the first onsite facility to become involved with the response to emergency events. Control Room personnel must evaluate and effect control over the emergency and initiate activities necessary for coping with the emergency until such time that support centers can be activated. These activities shall include:

- ~~Reactor and p~~Plant control.
- Initial direction of all plant related operations.
- Accident recognition, classification, mitigation and initial corrective actions.
- Alerting of onsite personnel.
- Notification of appropriate individuals.
- Activation of emergency response facilities and ERO notification.
- Notification of offsite agencies.
- Continuous evaluation of the magnitude and potential consequences of an incident.

- Initial dose projections.
- Recommendations for immediate protective actions for the public.

As other ERFs become activated, they will supply support to the Control Room, although overall Command and Control of the emergency will transfer to the SED (TSC) or the CED (EOF). Throughout all emergencies, the Control Room maintains its emergency activation status until its normal operational status may be resumed.

- b. Technical Support Center (TSC): Three Mile Island has established a TSC for use during emergency situations by station management, technical, and engineering support personnel. The TSC is activated for all emergencies classified as Alert or higher. Activation for other events is optional. When activated the TSC functions include:

- Support for the Control Room's emergency response efforts.
- Support the SED with assigned Command & Control functions.
- Continued evaluation of event classification.
- Assessment of the plant status and potential offsite impact.
- Coordination of emergency response actions.
- Notification of appropriate corporate and station management.
- Notification and update of the NRC via Emergency Notification System (ENS).

The TSC is the onsite location utilized to support the Control Room for assessment of plant status and potential offsite impact, and for implementation of emergency actions. TSC provides technical data and information to the EOF.

Figure TMI B-1b illustrates the staffing and organization of the TSC.

The TSC provides reliable voice communications to the Control Room, the OSC, the EOF, the NRC, and state and local Emergency Operations Centers. In addition, it provides facsimile transmissions capability (see Section F.1).

The TSC is sized to accommodate a minimum of 25 spaces and supporting equipment. This includes provisions for five NRC representatives. Adequate space is also available for the appropriate state representative(s).

Personnel in the TSC shall be protected from radiological hazards, including direct radiation and airborne contaminants under accident conditions with similar radiological habitability as Control Room personnel. To ensure adequate radiological protection, permanent radiation monitoring systems have been installed in the TSC and/or periodic radiation surveys are conducted. These systems indicate radiation dose rates and airborne radioactivity inside the TSC while in use. In addition, protective breathing apparatus (full-face air purifying respirators) and KI are available for use as required.

The TSC has access to a complete set of as-built drawings and other records, including general arrangement diagrams, P&IDs, and the electrical schematics. The TSC has the capability to record and display vital plant data, in real time, to be used by knowledgeable individuals responsible for engineering and management support of ~~reactor~~ operations, and for implementation of emergency procedures.

- c. Operations Support Center (OSC): Three Mile Island has established an OSC. The OSC is the onsite location to where station support personnel report during an emergency and from which they will be dispatched for assignments or duties in support of emergency operations. The OSC shall be activated whenever the TSC is activated, but need not remain activated at the Alert level if its use is judged unnecessary by the Station Emergency Director. At the Site Area and General Emergency levels, the OSC or an alternate OSC shall be activated at all times. The OSC is not activated for a HOSTILE ACTION when the Alternative Facility is implemented. Activation for other events is optional. Station disciplines ~~that may be called in to support reporting to~~ the OSC include, but are not limited to:

- Operating personnel not assigned to the Control Room,
- Radiation Protection Personnel,
- Chemistry Personnel,
- Maintenance Personnel (mechanical, electrical and I&C).

Figure TMI B-1b illustrates the staffing and organization for the OSC.

Each OSC is equipped with communication links to the Control Room, the TSC and the EOF (see Section F). A limited inventory of supplies will be kept for the OSC. This inventory will include respirators, protective clothing, flashlights and portable survey instruments.

2. Emergency Operations Facility (EOF)

The EOF is the location where the Corporate Emergency Director will direct a staff in evaluating and coordinating the overall company activities involved with an emergency. Activation of the EOF is mandatory upon declaration of an Alert or higher classification. The EOF provides for:

- Management of overall emergency response.

- Coordination of radiological and environmental assessments.
- Determination of recommended public protective actions.
- Management of recovery operations.
- Coordination of emergency response activities with federal, state, and local agencies.

The common MA Region EOF is located west of Philadelphia, in Coatesville PA. This facility supports Limerick, Peach Bottom and TMI Stations.

The facility is designed with the following considerations:

- The location provides optimum functional and availability characteristics for carrying out overall strategic direction of Exelon Nuclear onsite and support operations, determination of public protective actions to be recommended to offsite officials, and coordination with Federal, state and local organizations.
- It is well engineered for the design life of the plant and is of sufficient size to accommodate about 50 people.
- It is equipped with reliable voice communications capabilities to the TSC, the OSC, the Control Room, NRC, and state and local emergency operations centers. In addition, the EOF has facsimile transmission capability.
- Equipment is provided to gather, store, and display data needed in the EOF to analyze and exchange information on plant conditions with the Station. The EOF technical data system receives, stores, processes, and displays information sufficient to perform assessments of the actual and potential onsite and offsite environmental consequences of an emergency condition.
- The EOF has ready access to plant records, procedures, and emergency plans needed for effective overall management of Exelon Nuclear emergency response resources.

3. Emergency Operations Centers

EOCs operated by the state and local communities have been established to perform direction and control of emergency response functions.

The Pennsylvania state EOC is capable of continuous (24-hour) operations for a protracted period. The center contains sufficient communications (radio, telephone and teletype) equipment, maps, emergency plans, and status boards to provide the necessary interfaces with other federal, state, county, and Exelon emergency facilities.

The county EOCs serve as Command and Control headquarters for local emergency response activities as well as a center for the coordination of communications to field units and to the state EOC. The EOC has the equipment necessary, (such as facsimile machines, telecommunications equipment, radio gear, photocopiers, wall maps, etc.) to carry out their emergency responsibilities.

4. Activation

NOTE: NUREG-0654 Criterion II.B.5 states that the "licensee must be able to augment on-shift capabilities within a short period after declaration of an emergency". It further defines that short period as 30 and 60 minutes. The time frames for rapid augmentation of a nuclear power plant staff in the event of an emergency are not rigid inviolate requirements but rather goals. It is Exelon Nuclear's intent to expend its best efforts to meet the augmentation criteria goals regarding staffing Emergency Response Facilities with sufficiently skilled individuals capable of handling an emergency. Both the NRC and Exelon Nuclear realize that due to diversity of normal residential patterns for the stations' staff, possible adverse weather conditions, road congestion and site access restrictions, these time frames might be exceeded.

Exelon Nuclear has put into place plans and procedures to ensure timely activation of its emergency response facilities. The Shift Manager (as Shift Emergency Director) will initiate a call-out in accordance with the implementing procedures. The ERO augmentation process identifies individuals who are capable of fulfilling the specific response functions that are listed in ERO staffing tables contained within this Emergency Plan. This table was developed based on the functions listed in NUREG-0654, Table TMI B-1.

Although the response time will vary due to factors such as weather and traffic conditions, a goal of 60 minutes for minimum staffing, following the declaration of an Alert or higher emergency classification, has been established for the ERO personnel responding to the station emergency facilities and the EOF. Additionally, plans have been developed to ensure timely functional activation and staffing of the JIC when the classification of Alert is declared.

It is the goal of the organization to be capable of activating the applicable Emergency Response Facility upon achieving minimum staffing. The facility can be declared activated when the following conditions are met:

- a. Minimum staffing has been achieved.
- b. The facility is functional.

Although the minimum staffing criteria applies to the JIC, the activation time is 90-minutes from an Alert or higher classification. ~~not applicable. Public Information personnel must first coordinate the decision to activate the JIC with the appropriate offsite authorities.~~

The Director in charge may elect to activate their facility without meeting minimum staffing; if it has been determined that sufficient personnel are available to fully respond to the specific event (this would not constitute a successful minimum staff response).

5. Monitoring Equipment Onsite

Three Mile Island is equipped with instrumentation for seismic monitoring, radiation monitoring, fire protection and meteorological monitoring. Instrumentation for the detection or analysis of emergency conditions is maintained in accordance with station Technical Specifications, if applicable, or commitments made to the NRC. Descriptions of the equipment will appear in the Station Annex. This equipment includes but is not limited to the following:

a. Geophysical Monitors

- 1) Meteorological Instrumentation: A permanent meteorological monitoring station is located near each station for display and recording of wind speed, wind direction, and ambient and differential temperature for use in making offsite dose projections. Meteorological information is presented in the CR, TSC, and EOF by means of the plant computer system. This information is remotely interrogated using a computer or other data access terminal.

With regard to **Exelon Nuclear's meteorological monitoring program**, there has been a quality assurance program adopted from 10 CFR 50, Appendix B. However, since the meteorological facilities are not composed of structures, systems, and components that prevent or mitigate the consequences of postulated accidents and are not "safety related," not all aspects of 10 CFR 50, Appendix B, apply. Those aspects of quality assurance germane to supplying good meteorological information for a nuclear power station were adopted into the meteorological quality assurance program. The meteorological program is also subject to the requirements of the ~~QATR, Section 19, Augmented Quality~~Decommissioning Quality Assurance Program.

The National Weather Service (NWS), or regional weather forecast providers, may be contacted during severe weather periods. These providers analyze national and local weather in order to provide localized weather forecasts for the system or for the station area as appropriate.

- 2) Seismic Monitoring: The seismic monitoring system measures and records the acceleration (earthquake ground motion) of the structure. Earthquakes produce low frequency accelerations which, when detected by the remote sensing devices, are permanently recorded as information which defines the response spectrum. The system remains in a standby condition until an earthquake causes the remote unit(s) to activate the recording circuits and tape transports. It also provides signals for immediate remote indication that specific preset response accelerations have been exceeded.
- 3) Hydrological Monitors: The design basis flood, probable maximum precipitation, and other improbable, conceivable extremes in hydrologic natural phenomena are well below any design limits for the station as detailed in the UFSAR.

b. Radiological Monitors and Sampling

- 1) The Radiation Monitoring System (RMS): In-plant radiological measurements provide information that may help determine the nature, extent and source of emergency conditions. The RMS is available to give early warning of a possible emergency and provides for a continuing evaluation of the situation in the Control Room. Radiation monitoring instruments are located at selected areas within the facility to detect, measure, and record radiation levels. In the event the radiation level should increase above a preset level, an alarm is initiated in the Control Room. Certain radiation monitoring instruments also alarm locally in selected areas of the facility. The RMS is divided into 3 subsystems:
 - a) Area Radiation Monitors (ARMs) are used for the direct measurement of in-plant exposure rates. The ARM readings allow in-plant exposure rate determinations to be made remotely without requiring local hand-held meter surveys. This information may be used, initially, to aid in the determination of plant area accessibility. In addition to permanent monitors, portable Continuous Air Monitors (CAMs) measure airborne particulate and airborne iodine activities at various locations within the operating areas.
 - b) Process Radiation Monitors (PRMs) are used for the measurement of radioactive noble gas, iodine, and particulate concentrations in plant effluent and other gaseous and fluid streams.
 - c) The accident, or high range, radiation monitoring system monitors radiation levels at various locations within the operating area. These are high range instruments used to track radiation levels under accident or post accident conditions. ~~These instruments include the Containment/Drywell Radiation Monitors.~~

The RMS provides the necessary activity or radiation levels required for determining source terms in dose projection procedures. Key RMS data is linked to the plant computer, which allows information to be passed to the TSC and EOF. The isotopic mix, including isotopes such as those in Table 3 of NUREG-0654, is based upon a default accident mix. Refer to the Three Mile Island UFSAR for further detail on the RMS capabilities and design.

- 2) Liquid and Gaseous Sampling Systems: The process sampling system consists of the normal sampling system and additional sampling panels located throughout the plant. Sampling systems are installed or can be modified to permit ~~reactor-coolant-and-containment-atmosphere~~-sampling even under severe accident conditions.

The sampling systems use a number of manual sampling techniques to enable ~~reactor-coolant-and-containment~~-sampling operations over a wide range of plant conditions. It is capable of providing information relative to post-accident plant conditions to allow operator actions to be taken to mitigate and control the course of an accident. Refer to the Three Mile Island UFSAR for further detail on sampling capabilities.

- 3) Portable Radiation Monitoring Equipment: Portable radiation survey instruments are available for a wide variety of uses such as area, sample, and personnel surveys and continued accident assessment. Instruments are stored throughout the plant and in the emergency facilities.
- c. Process Monitors: The Control Room and applicable redundant backup locations are equipped with extensive plant process monitors for use in both normal and emergency conditions. These indications include but are not limited to ~~reactor-coolant system pressure and temperature, containment pressure and temperature,~~ liquid levels, flow rates, status or lineup of equipment components. This instrumentation provides the basis for initiation of corrective actions.
- 1) Plant Monitoring/Information System: A plant monitoring/information system provides the data acquisition and database capability for performing plant monitoring and functions. The system is designed to scan, convert to engineering units, make reasonability and alarm limit checks, apply required transformations, store for recall and analysis, and display the reading of transformed data from plant instrumentation. The system scans flows, pressures, temperatures, fluid levels, radiation levels, equipment, and valve status at required frequencies. Scanned variables are quality tagged. The system provides for short and mid-term storage of data for on-line retrieval and fast recall, and long term storage to appropriate media.

- 2) Safety Parameter Display (SPDS) & Plant Parameter Display (PPDS) Systems: SPDS and PPDS provide a display of plant parameters from which the safety status of operation may be assessed in the Control Room, TSC and EOF. The primary function of the SPDS and PPDS is to help operating personnel in the Control Room make quick assessments of plant safety status. SPDS and/or PPDS displays in the TSC and EOF promote the exchange of information between these facilities and the Control Room and assists the emergency organization in the decision making process.
- d. Fire Detection System: The Fire Detection System is designed to quickly detect visible or invisible smoke (or other products of combustion) and/or heat in designated areas of the plant. The fire alarm communication systems and subsystems are located at strategic points throughout the plant to warn personnel of a nuclear incident or other emergency conditions. Existing plant alarm systems are sufficiently audible to alert personnel in the event of a fire or need for assembly. These alarm communication systems consist of warning sirens and lights (in high noise areas) and the PA system. Refer to the Three Mile Island UFSAR for further description of the station's fire protection system.

6. Monitoring Equipment Offsite

Exelon has made provisions to acquire data from and have access to the following offsite sources of monitoring and analysis equipment:

- a. Geophysical Monitors: In the event that the onsite meteorological tower or monitoring instrumentation becomes inoperative and the contracted weather provider cannot be contacted, meteorological data may be obtained directly from the National Weather Service or the internet.

A considerable array of seismometers are located in the region. A central point of contact to obtain information about a seismic event is the National Earthquake Information Service in Golden, Colorado.

Exelon Nuclear Corporate Offices can coordinate hydrology and seismology expertise in the event onsite information becomes unavailable.

- b. Radiological Environmental Monitors and Sampling: Exelon Nuclear has contracted with a company to conduct an extensive offsite environmental monitoring program to provide data on measurable levels of radiation and radioactive materials in the environs. The program (described fully in the Offsite Dose Calculation Manual), includes:

- Fixed continuous air samplers.
- Routine sampling of river water; milk and fish.
- A fixed dosimeter monitoring network.

The dosimeter program consists of the following elements:

- A near-site ring of dosimeters covering the 16 meteorological sectors.
 - A 16-sector ring of dosimeters placed in a zone within about 5 miles from the plant.
 - Dosimeters placed at each of the normal fixed air sampler locations (typically about 8-15 air samplers per nuclear station).
- c. Laboratory Facilities: External facilities for counting and analyzing samples can be provided by the other Exelon Nuclear stations, state, federal or contracted laboratories. These laboratories can act as backup facilities in the event that the affected station's counting room and laboratory become unusable or the offsite radiological monitoring and environmental sampling operation exceeds the capacity or capability of the station laboratory during an emergency. It is estimated that these laboratories will be able to respond within several hours from initial notification.

Outside analytical assistance may be requested from state and federal agencies, or through contracted vendors. The state maintains a mobile radiological laboratory that provides the primary means of analyzing off-site environmental samples. The NRC mobile laboratory may be made available for Site Area and General Emergencies. The DOE, through the Radiological Assistance Program (RAP) has access to any national laboratory with a Bell Lab contract (e.g., Brookhaven, Oak Ridge, Lawrence Livermore, etc.).

A general description of the laboratory capabilities is provided in Section C.3.

7. Offsite Monitoring Equipment Storage

Three Mile Island maintains a sufficient supply of emergency equipment (such as portable survey, counting, and air sampling instrumentation and other radiological monitoring equipment and supplies) that may be used for environmental monitoring. These supplies meet the initial requirements of two environmental Field Monitoring Teams. During subsequent phases of an emergency, additional equipment is available from other Exelon Nuclear generating stations, vendors and offsite response organizations.

8. Meteorological Monitoring

The station has installed and maintains a meteorological tower equipped with instrumentation for continuous reading of the wind speed, wind direction, air temperature and delta air temperature. Additional capabilities are available to obtain representative current meteorological information from other sources, such as the National Weather Service. A full description of the onsite meteorological capabilities is given in Section H.5.a of this Plan.

9. OSC Capabilities

The OSC provides area for coordinating and planning of OSC activities and the staging of personnel. Further space is available in adjacent offices and locker rooms to accommodate additional personnel as may be required. Alternate locations are available. The onsite storeroom maintains a supply of parts and equipment for normal plant maintenance. These parts, supplies and equipment are available for damage control use as necessary.

Sufficient radiation protection equipment (i.e., protective clothing, respiratory protection gear, KI, and other health physics equipment and supplies) is stored and maintained near the OSC (as well as the other emergency response facilities). Damage Control Team equipment is available near the OSC as well as in the maintenance shops. This equipment includes items such as a camera, portable lighting, and additional portable communications equipment. The OSC is stocked with an assortment of first aid and medical treatment equipment and supplies. The OSC maintains reliable voice communications with the CR, TSC, and EOF. For a complete description of communications equipment, refer to Section F. When an emergency condition exists at one station, additional supplies can be obtained from other unaffected stations and Exelon resources upon request.

10. Facility and Equipment Readiness

Emergency facilities and equipment are inspected and inventoried in accordance with emergency preparedness procedures. These procedures provide information on location and availability of emergency equipment and supplies. An inventory of all emergency equipment and supplies is performed on a quarterly basis and after each use in an emergency or drill. During this inventory, radiation monitoring equipment is checked to verify that required calibration period and location are in accordance with the inventory lists. Inspections include an operational check of instruments and equipment. Equipment, supplies, and parts which have a shelf-life are identified, checked, and replaced as necessary. Sufficient reserves of instruments and equipment are maintained to replace those which are removed from emergency kits or lockers for calibration or repair. The station is responsible for maintaining a supply of KI at the site.

11. General Use Emergency Equipment

Inventory procedures identify the equipment that makes up kits used in an emergency situation available within each emergency facility.

12. Collection Point for Field Samples

The onsite chemistry lab has been designated as the central point for the receipt of radiological field monitoring samples. Sampling and analysis equipment is available for quantitative activity determination of marine and air samples, and qualitative activity determination of terrestrial samples. Sufficient field monitoring equipment is maintained at the station for initial sampling. Instrumentation and equipment utilized for sample activity determination are routinely calibrated to ensure timely availability. Additional facilities as described in C.3 and H.6.c are available for sample and analysis of environmental samples.

Refer to the Station Annex for further description of contracted environmental sampling and analysis support for the site.

Section I: Accident Assessment

To effectively coordinate and direct all facets of the response to an emergency situation, diligent accident assessment efforts are required throughout the emergency. All four emergency classifications have similar assessment methods, however, each classification requires a greater magnitude of assessment effort dependent upon the plant symptoms and/or initiating event(s).

1. Plant Parameters and Corresponding Emergency Classification

Plant system and effluent parameter values are utilized in the determination of accident severity and subsequent emergency classification. Environmental and meteorological events are also determining factors in emergency classification. An emergency condition can be the result of just one parameter or condition change, or the combination of several. The specific symptoms, parameter values or events for each level of emergency classification are detailed in the emergency implementing procedures. Specific plant system and effluent parameters that characterize a classifiable event (EALs) are presented in Addendum 3 to each Station Annex.

In order to adequately assess the emergency condition, each emergency facility has the necessary equipment and instrumentation installed to make available essential plant information on a continuous basis. Evaluation of plant conditions is accomplished through the monitoring of plant parameters both from indication in the Control Room and within the plant. Some of the more important plant parameters to be monitored in the Control Room are assembled into a single display location, which is entitled the "Safety Parameter Display System" (SPDS). The SPDS monitors such parameters as: ~~reactor coolant system pressure, reactor or pressurizer water level, containment pressure, suppression pool water level and temperature, reactor power, safety system status, containment radiation level~~ and effluent monitor readings. The instrumentation and equipment capabilities available for each emergency facility are described in Section H.

2. Onsite Accident Assessment Capabilities

The resources available to provide initial and continuing information for accident assessment throughout the course of an event include plant parameter display systems, liquid and gaseous sampling system, Area and Process Radiation Monitoring Systems, and Accident Radiation Monitoring Systems ~~(which includes the high range containment radiation monitors)~~. Descriptions of these systems are given in Section H.5.b.

3. Source Term Determination

Source term (or ~~core-fuel~~ damage) estimations serve several roles within the Exelon Emergency Preparedness Program. For planning purposes, ~~fuel~~~~core~~ damage considerations are used as the bases for several of the Emergency Action Level (EAL) Initiating Conditions and as the threshold for the declaration of a General Emergency (the definition of a General Emergency specifies conditions which involve 'substantial' ~~fuel~~~~core~~ degradation or melting as one of the bases for classification).

From an implementation perspective, ~~fuel~~~~core~~ damage estimations provide a means of realistically differentiating between ~~the four core states~~ (no damage, clad failure, and fuel melt, ~~and vessel melt-through~~) to:

- Evaluate the status of the fuel ~~barriers~~~~clad~~ and how their status relates to the risks and possible consequences of the accident.
- Provide input on ~~fuel~~ ~~core~~ configuration (coolable or uncoolable) for prioritization of mitigating activities.
- Determine the potential quality (type) and/or quantity (%) of source term available for release in support of projected offsite doses and protective action recommendations.
- Provide information that quantifies the severity of an accident in terms that can be readily understood and visualized.
- Support the determination of radiological protective actions that should be considered for long term recovery activities.

The assessment methodologies utilized by ~~Exelon~~~~Three Mile Island~~ are intended to provide a rapid best estimate of ~~fuel~~~~core~~ damage which, when evaluated together, help to develop an overall picture of the extent of ~~fuel~~~~core~~ damage. ~~The methods used to estimate the amount or type of core damage occurring under accident conditions includes the following:~~

- ~~Containment Radiation Monitors: An indirect method used to determine the amount of core damage. Applicable to Loss of Coolant Accident (LOCA) scenarios. Based upon an end-of-life source term and static nuclide ratio assumptions yielding a limited accuracy. Valid any time following an accident.~~
- ~~Core Temperatures: Methods such as Core Exit Thermocouple (CET), Peak Core Temperatures and Hot Leg Temperatures provide indirect methods used to indicate the type and/or amount of core damage. Applicable for all types of accidents. Valid any time following an accident.~~
- ~~Core Uncovery: Methods such as Core Uncovery Time, RVLIS Level and Source Range Monitor count rate provide indirect methods used to indicate the type of core damage (clad failure or fuel melt). Applicable for all types of accidents. Provides a relatively accurate estimate of the state of the core early in the event. Valid any time following an accident.~~
- ~~Containment Hydrogen Concentration: An indirect method used to establish the type of core damage. Applicable to LOCA type accidents where all the hydrogen generated by the metal-water reaction is released into containment. Valid any time following an accident.~~
- ~~Sample Analysis – Isotopic Ratio Comparison: A direct method used to establish the type of core damage. Compares expected isotopic ratios with a sample to determine a general core state. Applicable under all types of accidents. Valid any time following an accident.~~

- ~~• Sample Analysis - Presence of Abnormal Isotopes: A direct method used to provide a go/no go indication of fuel melt by the presence of unusually high concentrations of the less volatile fission products. Applicable under all types of accidents. Valid any time following an accident.~~
- ~~• Sample Analysis - Concentration Evaluation: A direct method that yields the most accurate numerical estimations of the amount of core damage. Applicable for all types of accidents. Requires the sampled system(s) be in a steady state that usually prevents its use until the plant is in a stable condition.~~

4. Effluent Monitor Data and Dose Projection

Dose assessment or projection represents the calculation of an accumulated dose at some time in the future if current or projected conditions continue. During an accident, the Plant Parameter Display System and personal computers will provide the ERO with the timely information required to make decisions. Radiological and meteorological instrumentation readings are used to project dose rates at predetermined distances from the station, and to determine the integrated dose received. Dose assessment methods used by Exelon personnel to project offsite doses include:

- A. Monitored Release Points - This method utilizes the plant's effluent radiation monitors and system flow rates. Effluent release points are used to directly calculate a release rate. The point of the release determines the way the source term is affected and is adjusted by the dose assessment process.
- ~~B. Containment Leakage/Failure - This method uses a variety of containment failures or leak rates in conjunction with available source term estimations to develop a release rate to the environment. A direct vent of containment can be modeled as a failure to isolate.~~
- ~~C.~~ B. Release Point Samples - This method uses a sample at the release point and an estimated flow rate to develop a release rate at the point of release.
- ~~D.~~ C. Field Monitoring Team Data - This method uses a field survey or sample and the atmospheric model to back calculate a release rate and ratio concentrations of radioactive material at various points up and downwind of plume centerline.

The computer applications used to provide dose calculations are evaluated against the EPA-400 plume exposure Protective Action Guides (PAGs) applicable for the early phase of an accident. These evaluations place an emphasis on determining the necessity for offsite protective action recommendations. Dose assessment actions will be performed in the following sequence:

- First: Onset of a release to 1 hour post-accident: Shift personnel will rely on a simplified computerized dose model to assist them in developing offsite dose projections using real time data from effluent monitors and site meteorology.

Second: 1 hour post-accident to event termination: Estimates of off-site doses based on more sophisticated techniques are provided. Dedicated ERO personnel will analyze the offsite consequences of a release using more complex computerized dose modeling. These additional methods are able to analyze more offsite conditions than the simplified quick method, as well account for more specific source term considerations.

5. Meteorological Information

Local meteorological data is available from an onsite meteorological tower. The data available includes wind speed, wind direction, temperature, and delta temperature. These data are used by the utility, state, and NRC to provide near real-time predictions of the atmospheric effluent transport and diffusion. Meteorological data from the tower is available in the CR, TSC, and EOF. A full description of the onsite meteorological capabilities is given in Section H.5.a.

6. Unmonitored Release

Dose projections can be made during a release through use of actual sample data in situations where effluent monitors are either off-scale or inoperative or the release occurs by an unmonitored flow path. In the absence of effluent sample data, a dose projection can be performed simply by specifying the accident category as a default. The selection of a default accident category defines the mix, the total curies, and the release pathway(s). The total number of curies from a default mix for each isotope is used to provide an upper bound for release concentration, and hence, an upper bound for the dose rate and dose to the public.

7. Field Monitoring

In addition to the capabilities and resources described in Section H.6.b and H.7, Three Mile Island maintains the ability to take offsite air samples and to directly measure gamma dose rates the event of an airborne or liquid release. The capability to take offsite soil, water, and vegetation samples is also provided by either the Field Teams or a contracted vendor.

The environmental monitoring equipment, as described in Section H, contain portable survey, counting, and air sampling instrumentation and other radiological monitoring equipment and supplies to be used by the Field Monitoring Teams. Samples are taken at predetermined locations as well as those specified both during and after a release. Environmental measurements are used as an aid in the determination and assessment of protective and recovery actions for the general public.

8. Field Monitoring Teams

Field Monitoring Teams are dispatched by Three Mile Island to perform a variety of functions during conditions that may involve significant releases of radioactive materials from the plant. Radiological survey and sample data is used to define affected area boundaries, verify or modify dose projections and protective action recommendations, and assess the actual magnitude, extent, and significance of a liquid or gaseous release.

In addition to contamination and dose rate measurements, the change out of dosimeters and air sampler cartridges can be performed. Other actions may include soil, water and vegetation sampling.

The initial environmental surveys involve simple-to-perform measurements to quickly confirm or modify the dose projections based on plant parameters. Subsequent environmental monitoring efforts will be aimed at further defining the offsite consequences including instituting an expanded program to enable prompt assessments of any subsequent releases from the plant.

The expertise necessary to conduct limited offsite environmental survey and sampling exists onsite 24 hours a day. A minimum of two offsite Field Monitoring Teams are notified and activated at an Alert or higher classification. Teams are composed of two individuals are assembled at the station to test and inventory dedicated survey and sampling equipment. Teams are then dispatched in company or personal vehicles into the surrounding area when a release is or is expected to occur. Radiological survey and sample data is transmitted to the emergency facilities. Vendor/contractor support can be used to perform collection, shipment and analysis of environmental sample media as described in Section B.8.c.

9. Iodine Monitoring

Field monitoring equipment has the capability to detect and measure airborne radioiodine concentrations as low as $1 \times 10^{-7} \mu\text{Ci}/\text{cm}^3$ in the presence of noble gases. Interference from the presence of noble gas and background radiation will be minimized by ensuring that monitoring teams move to areas of low background prior to analyzing the sample cartridge. The collected air sample is measured by hand held survey meter as an initial check of the projection derived from plant data to determine if significant quantities of elemental iodine have actually been released (the chemical form that would pose a health hazard).

10. Dose Estimates

Specific procedures exist for the correlation of air activity levels to dose rate for key isotopes. Provisions have been established for estimating integrated dose from the projected and actual dose rates and for the comparison of these estimates with the protective action guides.

11. State Monitoring Capabilities

The states have the ability to dispatch their own field monitoring teams to track the airborne radioactive plume. The states also have the ability and resources to coordinate with federal and utility monitoring teams to compare sample results.

Section J: Protective Response

Protective response consists of emergency actions, taken during or after an emergency situation, which are intended to minimize or eliminate hazards to the health and safety of the public and/or station personnel. A range of protective actions has been developed for emergency workers and the general public in the Plume Exposure Pathway EPZ. Additionally, guidelines have been established to aid in choosing protective actions during an emergency that are consistent with federal guidance. Three Mile Island is responsible for onsite actions, while the responsibility for offsite actions rests with the state, county, and other offsite response agencies.

1. Notification of Onsite Personnel

For all emergency classifications, all personnel within the Protected Area are notified within 15 minutes of the initial classification or escalation of an emergency by recognizable alarms and/or verbal announcements over the plant Public Address (PA) System. Announcements include the emergency classification and response actions to be taken by personnel onsite (such as ERO, non-ERO, contractor personnel, and visitors). Provisions are made to alert personnel in high noise areas and outbuildings within the Protected Area as applicable.

Three Mile Island has identified locations where people might be expected to be present outside the Protected Area but within the Owner Controlled Area. Accountability of persons within the Owner Controlled Area but outside the Protected Area is not required. However, provisions are established for notification of personnel within the Owner Controlled Area any time a Site Evacuation has been initiated, or as otherwise deemed appropriate.

2. Evacuation Locations

If a Site Evacuation is required, nonessential personnel are directed to either assemble within designated Assembly Areas or to immediately evacuate the site. Personnel will be directed to either proceed to their homes or to reassemble at designated offsite locations. Visitors to the station will assemble with and follow the instructions of their escorts. Nonessential personnel within the Protected Area will normally exit through the security building. Personal transportation (if available) will normally be used and established evacuation routes will be followed. Personnel without transportation will be identified and provided transportation as necessary.

3. Radiological Monitoring of Evacuees

Personnel evacuating the site will be monitored for contamination by the portal monitors as they exit the Protected Area, with portable friskers in Assembly Areas, or sent to offsite monitoring locations on an as needed basis.

4. Evacuation

Evacuation is the primary protective action anticipated for onsite personnel not having immediate emergency response assignments. Three Mile Island has identified locations that serve as Assembly Areas and offsite locations for non-essential personnel when they are not instructed to proceed home. The specific locations of these areas are shown in the Station Annex. Implementing procedures describe equipment, supplies and general operation of these facilities. The Station Emergency Director will designate personnel within the Site Boundary as essential or nonessential. Evacuation of non-essential personnel is usually conducted immediately after accountability if a Site Area Emergency or General Emergency has been declared and conditions permit. Evacuation shall commence in accordance with station procedures as directed by the Station Emergency Director or his/her designee, unless one of the following conditions exist:

- a. Severe weather conditions threaten safe transport.
- b. A significant radiological hazard would be encountered.
- c. There is a security threat occurring, which would have an adverse impact on the personnel while leaving the site.
- d. A condition similar to the above in magnitude, which in the opinion of the Station Emergency Director would adversely affect the site personnel.

Security forces will be dispatched, when available, to access road(s) to control entry to site facilities. Unauthorized and non-ERO personnel will be denied entry.

The initiation of a site evacuation will be reported to the appropriate state/local agency.

Exelon has established the implementation of alternate onsite protective actions for security-based events that are more appropriate than the actions for radiological emergencies. These alternate protective actions could include taking immediate cover, immediate protected area evacuation, immediate owner controlled area evacuation, and dispatch of the ERO to their alternate reporting center.

5. Accountability

The purpose of Accountability is to determine the locations of all personnel inside the Protected Area and to muster emergency personnel at prearranged locations. When Accountability of onsite personnel is determined to be necessary by the Station Emergency Director, all personnel within the protected area shall be accounted for and the names of missing individuals (if any) are determined within thirty (30) minutes of the announcement.

Accountability is usually performed in conjunction with Assembly, and is required to be initiated whenever a Site Area Emergency or higher classification is declared. The movement of personnel for the purposes of Accountability may be delayed if their health and safety could be in jeopardy, such as severe weather or for security concerns.

If it is determined that the prearranged Assembly Area is unfit for personnel, the Station Emergency Director may designate an alternative Assembly Area and direct personnel using appropriate communication systems that are available.

Once established, Accountability within the Protected Area is maintained throughout the course of the event. Should missing personnel be identified, search and rescue operations are initiated.

6. Provisions for Onsite Personnel

Three Mile Island maintains an inventory of respiratory protection equipment, anti-contamination clothing, and KI that is made available to emergency workers remaining onsite should conditions warrant. During the course of an emergency, protective actions are considered to minimize radiological exposures or contamination problems associated with all onsite personnel. For those who must work within the restricted area of the affected site, measures that are considered are:

- a. Use of Respirators: On-shift and emergency response personnel use respiratory protection in any environment involving exposure to high level gaseous activity or oxygen deficient atmosphere, or where air quality is in doubt. In the presence of airborne particulates, emergency response personnel may be directed by health physics personnel to use full-face filter type respirators. The criteria for issuance of respiratory protection are described in Radiation Protection procedures.
- b. Use of Protective Clothing: Anti-contamination clothing, located in the TSC, OSC and station dress out areas is available for use by onsite personnel. The criteria for issuance of protective clothing are described in Radiation Protection procedures.
- c. Use of Potassium Iodide (KI): The use of KI may be recommended when a projected dose of 50 Rem Committed Dose Equivalent (CDE) is exceeded for an emergency worker's thyroid. This is the value specified in EPA 400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents." Three Mile Island is responsible for maintaining a supply of KI onsite. The Station Emergency Director has the responsibility for approval of issuing KI to Exelon Nuclear emergency workers.

7. Mechanism for Implementing Protective Action Recommendations

Plant conditions, projected dose and dose rates, and/or field monitoring data are evaluated to develop PARs for the purpose of preventing or minimizing exposure to the general public. PARs are provided to the offsite agencies responsible for implementing protective actions for the general public within the 10-mile EPZ. PARs are approved by the Emergency Director in Command and Control.

In an emergency that requires immediate protective actions be taken prior to activation of the offsite emergency facilities, PARs are provided directly to the state and county 24 hour warning points by the Emergency Director.

8. Evacuation Time Estimates (ETEs)

The evacuation time estimates (ETE) were developed in accordance with NUREG/CR-7002, Criteria for Development of Evacuation Time Estimate Studies. Section IV of Appendix E to 10CFR50 requires that an analysis of the time required to evacuate be provided for various sectors and distances within the plume exposure pathway EPZ for transient and permanent residents which includes special facilities schools, nursing homes, hospitals, and recreational areas. The evacuation time estimate (ETE) is a calculation of the time to evacuate the plume exposure pathway emergency planning zone (EPZ), which is an area with a radius of about 10 miles around the station.

The ETE study used population data from the 2010 census. The evacuation times are based on a detailed consideration of the EPZ roadway network and population distribution. The ETE Study is contained in an addendum to the station Annex and presents evacuation times for daytime and nighttime scenarios under various weather conditions for the evacuation of various areas around the station.

Within 365 days of the availability of each decennial census data from the U.S. Census Bureau, each station shall develop an ETE analysis using this decennial data and submit it under 10CFR50.4 to the NRC. The ETE analysis shall be submitted to the NRC at least 180 days before using it to form protective action recommendations and providing it to State and local governmental authorities for use in developing offsite protective action strategies.

During the years between decennial censuses, EPZ permanent resident population changes are estimated once a year, but no later than 365 days from the date of the previous estimate, using the most recent U.S. Census Bureau annual resident population estimate and State/local government population data, if available. If at any time during the decennial period, the EPZ permanent resident population increases such that it causes the longest ETE value for the 2-mile zone or 5-mile zone, including all affected Emergency Response Planning Areas, or for the entire 10-mile EPZ to increase by 25 percent or 30 minutes, whichever is less, from the currently NRC approved or updated ETE, the ETE analysis will be updated to reflect the impact of that population increase. These estimates are available for NRC inspection during the period between decennial censuses and will be submitted to the NRC with any updated ETE analysis under 10CFR50.4 no later than 365 days after the determination that the criteria for updating the ETE have been met and at least 180 days before using it to form protective action recommendations and providing it to State and local governmental authorities for use in developing offsite protective action strategies.

9. Capability of Implementing Protective Action Recommendations

The responsibility for implementing protective measures based on protective action guides for the offsite population at risk is the responsibility of the state and local governments. Detailed procedures for public protective actions are contained in the state and other local radiological emergency response plans as appropriate.

The state agencies are responsible for evaluation of Exelon Nuclear recommended protective actions and preparing a recommendation to the Governor, or his/her appointed agent. Only when the state acts under the Governor's order does a recommended protective action become a directed protective action.

If the plant conditions are stable and offsite radiological conditions are such that the public health and safety are not endangered, then return to evacuated areas may be discussed with the affected state(s). State authorities are responsible for actually recommending return and transmitting this recommendation.

10. Implementation of Protective Action Recommendations

The utility, state, and county emergency plans used to implement the protective measures for the plume exposure pathway take numerous factors into consideration as stated in NUREG-0654 II.J. Among these considerations are:

- a. Most of the public evacuees are expected to travel in their own vehicles, leaving the EPZ via designated evacuation routes. The Station Annex shows the evacuation routes, EPZ Subareas and pre-selected sampling/monitoring points. The state and county plans contain official maps and information on the locations of off-site centers.
- b. The population distribution around the station. Population distribution for the plume exposure EPZ is illustrated in the Station Annexes.
- c. As indicated in Section E, offsite agencies are notified in the event the E-Plan is activated. State and county agencies have the capability to notify all members of the transient and resident population within the Plume Exposure Pathway EPZ.
- d-l. NUREG-0654 II.J.10.d-l items are addressed separately in state and county emergency plans.

- m. At a General Emergency classification, Exelon Nuclear will provide the state with recommendations for protective actions for the public. For incidents involving actual, potential, or imminent releases of radioactive material to the atmosphere, EPA 400-R-92-001, the NRC Response Technical Manual (RTM-96) and NUREG-0654, Supp. 3, Revision 1 are used as the basis for the general public PARs.

1) Plant Based PARs

Station specific PAR Flowcharts have been developed to aid Exelon Nuclear personnel providing PARs based on the above. Station specific PAR Flowcharts with Subarea or Sector tables are documented in the Exelon EP Implementing Procedures, including station-specific requirements regarding PAR determination. These flowcharts and tables provide technically based Protective Action Recommendations based on plant conditions ~~and core damage~~ indicators as applicable to the Exelon site and described within the implementing procedures. Possible plant based PARs issued by Exelon Nuclear, in support of NUREG-0654 Supp. 3, at a General Emergency could include as appropriate for the Station:

- Response to a Rapidly Progressing Severe Accident.
- Utilization of the staged evacuation concept as determined by station ETE's.
- Shelter of the general public in response to but not limited to; ~~a controlled containment vent lasting less than 1 hour in duration less than PAGs,~~ impediments to evacuation, or Hostile Action event.
- Evacuation of the general public.

In addition to the above actions to minimize or prevent potential exposure to radiation, a recommendation of "monitor and prepare" will be issued for the remainder of the EPZ.

2) Dose Based PARs

Evacuation is recommended if projected doses reach the minimum EPA PAGs (≥ 1 Rem EPA TEDE¹ or ≥ 5 Rem CDE Thyroid).

¹ EPA TEDE is defined as the sum of the doses from external exposure and inhalation from the plume, and from 4 days of external exposure to deposited materials.

Many assumptions exist in dose assessment calculations, involving both source term and meteorological factors, which make computer predictions over long distances highly questionable. However, in the event dose assessment results indicate the need to recommend actions beyond the outer EPZ boundaries, which is past 10 miles, Field Monitoring Teams are dispatched to downwind areas to verify the calculated exposure rates prior to issuing PARs outside the EPZ. In the event dose assessment results indicate the need to recommend actions beyond the outer EPZ boundaries (past 10 miles):

- If Field Monitoring Teams have been dispatched from the site, then dose assessment exposure rates will be verified prior to issuing any recommended action.
- If Field Monitoring Teams have not been dispatched from the site, then issuing recommended actions will not be delayed waiting on Field Teams.

Exelon personnel normally do not have the necessary information to determine whether off site conditions would require sheltering instead of evacuation. External factors (such as road conditions, traffic/traffic control, weather, or offsite emergency response capabilities) are determined by the state.

11. Ingestion Pathway Protective Measures

The responsibility for specifying protective measures to be used for the ingestion pathway rests with the state. These measures include the methods for protecting the public from consumption of contaminated water and foodstuffs.

12. Monitoring of Evacuees

The state and county organizations have the capability to register and monitor evacuees at designated reception centers. This capability includes personnel and equipment capable of monitoring residents and transients evacuating from the plume exposure EPZ and arriving at the reception centers, in accordance with FEMA guidelines.

Section K: Radiological Exposure Control

This section of the plan describes the means for controlling emergency worker radiological exposures during an emergency, as well as the measures that are used by Exelon to provide necessary assistance to persons injured or exposed to radiation and/or radioactive materials. Exposure guidelines in this section are consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides described in EPA 400-R-92-001.

1. Emergency Exposure Guidelines

Being licensed by the NRC, all Exelon Nuclear generating stations maintain personnel exposure control programs in accordance with 10 CFR 20 under normal operating conditions. The Station Emergency Director is assigned the non-delegable responsibility for authorizing personnel exposure levels under emergency conditions per EPA-400. In emergency situations, workers may receive exposure under a variety of circumstances in order to assure safety and protection of others and of valuable property. These exposures will be justified if the maximum risks or costs to others that are avoided by their actions outweigh the risks to which the workers are subjected. The Emergency Worker Dose Limits are as follows:

Dose Limit (Rem TEDE)	Activity	Condition
0-5	All	Personnel should be kept within normal 10 CFR 20 limits during bona fide emergencies, except as authorized for activities as indicated below.
5-10	Protecting valuable property	Lower dose not practicable.
10-25	Lifesaving or protection of large populations	Lower dose not practicable.
> 25	Lifesaving or protection of large populations	Only on a voluntary basis to persons fully aware of the risks involved.

Limit dose to the lens of the eye to 3 times the above values and doses to any other organ (including skin and body extremities) to 10 times the above values.

Whenever possible, the concurrence of the Station's Radiation Protection (Department) Manager should be secured before exposing individuals to dose equivalents beyond the EPA-400 lower limit.

2. Emergency Radiation Protection Program

The TSC Radiation Protection Manager is the individual responsible for the implementation of the radiation protection actions during an emergency. Radiation protection guidelines include the following:

- Volunteers over forty-five years of age are considered first for any emergency response action requiring exposure greater than normal limits. Routine dose limits shall not be extended to emergency dose limits for declared pregnant individuals. As in the case of normal occupational exposure, doses received under emergency conditions should be maintained as low as reasonably achievable.
- Persons undertaking any emergency operation in which the dose will exceed 25 Rem TEDE should do so only on a voluntary basis and with full awareness of the risks involved including the numerical levels of dose at which acute effects of radiation will be incurred and numerical estimates of the risk of delayed effects.
- In the context of the emergency limits, exposure of workers that is incurred for the protection of large populations may be considered justified for situations in which the collective dose avoided by the emergency operation is significantly larger than that incurred by the workers involved.
- Exposure accountability is maintained and proper personnel radiological monitoring equipment is provided for all personnel during emergency conditions.
- Access to high radiation areas is only permitted with prior approval of the applicable Radiation Protection Manager. Personnel are not allowed to enter known or potential high radiation areas unless their exposure has been properly evaluated.
- Periodic habitability surveys of emergency facilities are performed during an emergency. If the facility is determined to be uninhabitable, the facility is evacuated in order to prevent or minimize exposure to radiation and radioactive materials. Alternate assembly areas are established, as necessary, to relocate and monitor evacuated personnel.

3. Personnel Monitoring

- a. Emergency workers will receive DLR badges and personal self-reading dosimeters capable of measuring expected exposures on a real time basis. The capability exists for the emergency processing of DLRs on a 24-hour per day basis, if necessary.
- b. Emergency worker dose records are maintained by the Radiation Protection Managers (as appropriate) in accordance with the emergency and radiological protection procedures. Emergency workers are instructed to read their dosimeters frequently. DLRs may be processed with increased periodicity.

4. Non-Exelon Personnel Exposure Authorization

The responsibility for authorizing non-Exelon emergency workers (i.e. state and local agency emergency workers) to receive exposures in excess of the EPA General Public Protective Action Guides rests with the state and county organizations, except when such emergency workers are onsite. Authorization of exposures in excess of EPA General Public Protective Action Guides, in this latter instance, rests with the Station Emergency Director.

5. Contamination and Decontamination

During an emergency, the Station Emergency Director is responsible for preventing or minimizing personnel exposure to radioactive materials deposited on the ground or other surfaces. Special consideration should be given to setting up contamination control arrangements for personnel entering the OSC after completion of assigned activities.

- a. During emergency conditions, normal plant contamination control criteria will be adhered to as much as possible. However, these limits may be modified by the applicable Radiation Protection Manager per existing Radiation Protection procedures, should conditions warrant.
- b. Contamination Control Means: Personnel found to be contaminated will normally be attended to at decontamination areas located onsite. Temporary decontamination areas can also be set up inside at various locations. Decontamination showers and supplies are provided onsite with additional personnel decontamination equipment and capabilities. Shower and sink drains in the controlled area are routed to the miscellaneous waste processing system where the liquid is processed and monitored prior to discharge. Potentially contaminated emergency vehicles will be surveyed before they are allowed to leave the plant or offsite assembly area. If the survey area is not suitable for monitoring and decontamination due to radiological or other concerns, vehicles will be surveyed at an alternate location.

6. Contamination Control Measures

Controls are established 24 hours per day to contain the spread of loose surface radioactive contamination.

- a. Contaminated areas are isolated as restricted areas with appropriate radiological protection and access control. Personnel leaving contaminated areas are monitored to ensure they and their clothing are not contaminated. If contamination above acceptable levels is found, they will be decontaminated in accordance with plant procedures. If normal decontamination procedures do not reduce personnel contamination to acceptable levels, the case will be referred to a competent medical authority. Supplies, instruments, and equipment that are in contaminated areas or have been brought into contaminated areas will be monitored prior to removal. If found to be contaminated, they will be decontaminated using normal plant decontamination techniques and facilities or may be disposed of as radwaste. Contaminated vehicles will be decontaminated before being released.

- b. Measures will be taken to control onsite access to potentially contaminated potable water and food supplies. Under emergency conditions when uncontrolled releases of activity have occurred, eating, drinking, smoking, and chewing are prohibited in all station emergency response facilities until such time as habitability surveys indicate that such activities are permissible.
- c. Restricted areas and contaminated items will be returned to normal use when contamination levels have been returned to acceptable levels. Contamination control criteria for returning areas and items to normal use are contained in the plant procedures.

7. Decontamination of Relocated Personnel

Nonessential onsite personnel may be evacuated to an offsite relocation center or assembly area, as discussed in Section J. Radiological controls personnel at that location monitor evacuees and determine the need for decontamination. Existing and temporary facilities to limit contamination and exposure will be utilized and established at the site as necessary during an emergency situation. In the event that decontamination of evacuees locally is not possible, personnel will be sent to designated locations for monitoring and decontamination. Provisions for extra clothing are made and suitable decontaminates are available for the expected type of contaminations, particularly with regards to skin contaminations.

Section L: Medical and Public Health Support

This section describes the arrangements for medical services for contaminated injured individuals sent from the station.

1. Offsite Hospital and Medical Services

Hospital personnel have been trained and hospitals are equipped to handle contaminated or radiation injured individuals. Specifically, training of medical support personnel at the agreement hospitals will include basic training on the nature of radiological emergencies, diagnosis and treatment, and follow-up medical care. Station personnel are available to assist medical personnel with decontamination radiation exposure and contamination control. Arrangements, by letter of agreement or contract, are maintained by Three Mile Island with a qualified hospital located in the vicinity of Three Mile Island for receiving and treating contaminated or exposed persons with injuries requiring immediate hospital care. Exelon Nuclear shall provide medical consultants to aid in any special care necessary at these facilities.

Arrangements are also maintained by the corporate office with a qualified medical facility well equipped and staffed for dealing with persons having radiation injuries and whenever necessary, such persons will be transferred to this hospital facility for extended specialized treatment. Exelon Nuclear will have available to the staff of this hospital, medical consultants who will provide the direction of the special care necessary for the treatment of persons having radiation injuries.

These agreements are verified annually. Refer to section II.P.4 for details.

2. Onsite First Aid Capability

Three Mile Island maintains onsite first aid supplies and equipment necessary for the treatment of contaminated or injured persons. In general, physicians or nurses are not staffed at Three Mile Island, and as such, medical treatment given to injured persons is of a "first aid" nature. Three Mile Island does have an industrial hygiene advisor. Additionally, the Radiation Protection Technicians at Three Mile Island are experienced in control of radioactive contamination and decontamination work. Station personnel are also trained and qualified to administer first aid. At least two of these individuals are available on shift at all times. The functions of station personnel in handling onsite injured people are:

- 1) Afford rescue;
- 2) Administer first aid including such resuscitative measures as are deemed necessary;
- 3) Begin decontamination procedures; and
- 4) Arrange for suitable transportation to a hospital when required.

Primary attention shall be directed to the actual factors involved in the treatment of casualties, such as: control of bleeding, resuscitation including heart and lung, control of bleeding after resuscitation, protection of wounds from bacterial or radioactive contamination and the immobilization of fractures.

Station personnel provide an initial estimate of the magnitude of surface contamination of the injured and preliminary estimates of total body dose to the injured. Primary rapid and simple decontamination of the surface of the body (when possible and advisable) before transportation to a designated hospital may be carry out as directed or performed by Radiation Protection personnel. When more professional care is needed, injured persons are transported to a local clinic or hospital. Contaminated and injured persons are transported to a dedicated specified facility.

3. Medical Service Facilities

Because of the specialized nature of the diagnosis and treatment of radiation injuries, Corporate Emergency Preparedness maintains an agreement with REAC/TS. REAC/TS is a radiological emergency response team of physicians, nurses, health physicists and necessary support personnel on 24-hour call to provide consultative or direct medical or radiological assistance at the REAC/TS facility or at the accident site. Specifically, the team has expertise in and is equipped to conduct: medical and radiological triage; decontamination procedures and therapies for external contamination and internally deposited radionuclides, including chelation therapy; diagnostic and prognostic assessments or radiation-induced injuries; and radiation dose estimates by methods that include cytogenetic analysis, bioassay, and in vivo counting.

In addition to REAC/TS, the Station Annex may identify additional medical consultants, based on agreements with local hospitals, to support personnel training and medical response.

4. Medical Transportation

Arrangements are made by Three Mile Island for prompt ambulance transport of persons with injuries involving radioactivity to designated hospitals. Such service is available on a 24-hour per day basis and is confirmed by letter of agreement. Radiation monitoring services shall be provided by Three Mile Island whenever it becomes necessary to use the ambulance service for the transportation of contaminated persons.

A qualified Radiation Protection person shall accompany the ambulance to the hospital. Additional Radiation Protection personnel may be contacted and dispatched to local hospitals to assist in the monitoring and decontamination of the injured victim and hospital and ambulance facilities and personnel.

Section M: Reentry and Recovery Planning

This section describes the measures to be taken for reentry into the areas of Three Mile Island which have been evacuated as a result of an accident. It also outlines the Exelon Nuclear Recovery Organization and its concepts of operation.

1. Reentry and Recovery

a. Evaluating Reentry Conditions

During an emergency, immediate actions are directed toward limiting the consequences of the accident to afford maximum protection to station personnel and the general public. Once corrective measures have been taken and effective control of the plant has been re-established, a more methodical approach to reentry is taken. This E-Plan divides reentry into two separate categories:

- Reentry *during the emergency phase of an accident* is performed to save a life, control a release of radioactive material, prevent further damage to plant equipment or restore plant equipment. If necessary, this category of reentry may be performed using emergency exposure limits. Briefings, rather than written radiation protection procedures, may be used when making these entries.

All reentry activities conducted during the emergency are authorized by the Station Emergency Director and coordinated by the OSC Director and the Radiation Protection Manager.

- Reentry *during the recovery phase of an accident* is performed using normal exposure limits. Either normal procedures or procedures that consider existing as well as potential conditions inside affected areas are developed specifically for each reentry.

Reentry activities during the recovery phase are authorized by the Recovery Director and coordinated by the recovery organization managers in charge of personnel making the reentry.

The following items are considered when planning for any reentry:

- Review of available radiation surveillance data to determine plant areas potentially affected by radiation and/or contamination.
- Review of radiation exposure history of personnel required to participate in the accident mitigation or recovery operations.
- Determination of the need for additional personnel and the sources of these additional personnel.
- Review of adequacy of radiation survey instrumentation and equipment (types, ranges number, calibration, etc.).

- Review of non-radiological hazards and required protective measures (e.g., fire, electrical, Hazmat).
- Pre-planning of activities and briefings for the reentry team that include the following:
 - Personnel knowledge requirements.
 - Methods and procedures that will be employed during the entry.
 - Specific tasks to be performed.
 - Anticipated radiation and contamination levels.
 - Radiation survey equipment and types and ranges of dosimetry required.
 - Shielding requirements and availability.
 - Appropriate communications.
 - Protective clothing and equipment requirements.
 - Access control procedures.
 - Decontamination requirements.
 - De-briefing requirements.
 - Respiratory protection.
- A review of security controls to prevent unauthorized or unintentional entry into hazardous areas.

b. Evaluating Entry into Recovery

The Recovery Phase is that period when major repairs are being performed to return the plant to an acceptable condition and the possibility of the emergency condition degrading no longer exists. Once the plant has been stabilized, contained and controlled, the Recovery Phase may be entered. It is the responsibility of the Station Emergency Director to classify Recovery after obtaining authorization from the Corporate Emergency Director.

Establishment of Recovery can be conducted from any emergency classification level. However, it is possible that the lower classifications of Unusual Event and Alert will conclude with the event being terminated. There may be cases where certain EAL initiating conditions remain exceeded, but the station is under control and no further danger of degradation exists. In such a case, it may be appropriate to enter Recovery. Site Area and General Emergencies will require a Recovery Phase to be established prior to event termination. Exelon Nuclear may consult with/notify cognizant governmental agencies prior to declaring Recovery or event termination.

Termination/Recovery considerations are contained in the implementing procedures to provide guidance for evaluating the risk of entering Recovery without alleviating the intent of the Initiating Condition. The purpose of Recovery is to provide the necessary personnel to handle the long-term activities and to return the plant to an acceptable condition.

The following conditions are guidelines for the determination of establishing Recovery (this is not intended to be a complete list and additional criteria may apply, depending on the specifics of the event):

- The risk to the health and safety of the public has been mitigated.
- Plant parameters and equipment status have been established and controlled.
- In-plant radiation levels are stable or decreasing, and acceptable, given the plant conditions.
- The potential for uncontrolled releases of radioactive material to the environment has been eliminated.
- Environmental monitoring has been established.
- The radioactive plume has dissipated and plume tracking is no longer required (the only environmental assessment activities in progress are those necessary to assess the extent of deposition resulting from passage of the plume).
- Exelon Nuclear workers have been protected.
- Any security threat has been neutralized, and/or plant security is under the direction of Exelon Nuclear personnel.
- Adequate plant safety systems are operable.
- ~~The reactor is in a stable shutdown condition and long-term core cooling is available~~

- The fuel pool damage has been mitigated, or spent fuel damage has been contained and controlled.
- ~~Primary and/or secondary containment integrity has been established.~~
- Plant systems and equipment are restored and/or replaced such that plant conditions are stable highly unlikely to degrade further.
- Conditions that initiated the emergency have been contained, controlled, eliminated or stabilized such that the classification is no longer applicable.
- The operability and integrity of radioactive waste systems, decontamination facilities, power supplies, electrical equipment and of plant instrumentation including radiation monitoring equipment.
- Any fire, flood, earthquake or similar emergency condition or threat to security no longer exists.
- All required notifications have been made.
- Discussions have been held with federal, state and county agencies and agreement has been reached to terminate the emergency.
- At an Alert or higher classification, the ERO is in place and emergency facilities are activated.
- Any contaminated injured person has been treated and/or transported to a medical care facility.
- Offsite conditions do not unreasonably limit access of outside support to the station and qualified personnel and support services are available.

It is not necessary that all conditions listed above be met; however, all items must be considered prior to entering the recovery phase. For example, it is possible after a severe accident that some conditions remain that exceed an Emergency Action Level, but entry into the Recovery Phase is appropriate.

2. Recovery Organization

Once plant conditions have been stabilized and the Recovery Phase has been initiated, the Emergency Director may form a Recovery Organization for long-term operations. These types of alterations will be discussed with the NRC prior to implementation.

- For events of a minor nature, (i.e. for Unusual Event classifications) the normal on shift organization is normally adequate to perform necessary recovery actions.

- For events where damage to the plant has been significant, but no offsite releases have occurred and/or protective actions were not performed, (i.e. for Alert classifications) the station Emergency Response Organization, or portions thereof, should be adequate to perform the recovery tasks prior to returning to the normal station organization.
- For events involving major damage to systems ~~required to maintain safe shutdown of the plant and~~ where offsite radioactive releases have occurred, (i.e. for Site Area Emergency or General Emergency classifications) the station recovery organization is put in place.

The specific members of the station recovery organization are selected based on the sequence of events that preceded the recovery activities as well as the requirements of the recovery phase. The basic framework of the station recovery organization is as follows:

- a. The Recovery Director: The Corporate Emergency Director is initially designated as the Recovery Director. The Recovery Director is charged with the responsibility for directing the activities of the station recovery organization. These responsibilities include:
 - Ensuring that sufficient personnel, equipment, or other resources from Exelon and other organizations are available to support recovery.
 - Directing the development of a recovery plan and procedures.
 - Deactivating any of the plant Emergency Response Organization which was retained to aid in recovery, in the appropriate manner. Depending upon the type of accident and the onsite and offsite affects of the accident, portions of the ERO may remain in place after initiation of the recovery phase.
 - Coordinating the integration of available federal and state assistance into onsite recovery activities.
 - Coordinating the integration of Exelon support with federal, state and county authorities into required offsite recovery activities.
 - Approving information released by the public information organization which pertains to the emergency or the recovery phase of the accident.
 - Determining when the recovery phase is terminated.
- b. The Recovery Plant Manager: The Station Manager or a designated alternate will become the Recovery Plant Manager. The Recovery Plant Manager reports to the Recovery Director and is responsible for:
 - Coordinating the development and implementation of the recovery plan and procedures.

- Ensuring that adequate engineering activities to restore the plant, are properly reviewed and approved.
 - Directing all onsite activities in support of the station recovery effort.
 - Designating other Exelon recovery positions required in support of onsite recovery activities.
- c. The Recovery Offsite Manager: A senior Corporate Emergency Preparedness or Regulatory Affairs individual, or a designated alternate, is the Recovery Offsite Manager. The Recovery Offsite Manager reports to the Recovery Director and is responsible for:
- Providing liaison with offsite agencies and coordinating Exelon assistance for offsite recovery activities.
 - Coordinating Exelon ingestion exposure pathway EPZ sampling activities and the development of an offsite accident analysis report.
 - Developing a radiological release report.
 - Designating other Exelon recovery positions required in support of offsite recovery activities.
- d. The Company Spokesperson: A senior Exelon management individual is designated as the Company Spokesperson. The Company Spokesperson reports to the Recovery Director and is responsible for:
- Functioning as the official spokesperson to the press for Exelon on all matters relating to the accident or recovery.
 - Coordinating non-Exelon public information groups (federal, state, county, etc.).
 - Coordinating media monitoring and rumor control.
 - Determining what public information portions of the ERO will remain activated.

The remainder of the recovery organization is established and an initial recovery plan developed at the end of the emergency phase or just after entry into the recovery phase. Consideration is given to recovery activity needs and use of the normal station organizations. Individual recovery supervisors may be designated in any or all of the following areas:

- Training
- Radiation Protection
- Chemistry
- Technical/Engineering Support

- Nuclear Oversight
- Operations
- Security
- Maintenance
- Special Offsite Areas (Community Representatives, Environmental Samples, Investigations, etc.)

3. Recovery Phase Notifications

When the decision is made to enter the recovery phase, all members of the Exelon ERO are informed of the change. All Exelon personnel are instructed of the Recovery Organization and their responsibilities to the recovery effort.

4. Total Population Exposure

Total population exposure calculations are performed and periodically updated during the recovery phase of an accident. A method has been developed for estimating the total population exposure resulting from the accident from data collected in cooperation with the state and other federal agencies. Total population exposure is determined through a variety of procedures including:

- Examination of pre-positioned dosimeters.
- Bioassay.
- Estimates based on release rates and meteorology.
- Estimates based on environmental monitoring of food, water, and ambient dose rates.

The state will be the lead agency in the collection and analysis of environmental air, soil, foliage, food, and water samples and for the generation of radiation monitoring reports. Exelon Nuclear environmental sampling activities will be coordinated with state efforts, as requested, and results shared with cognizant agencies.

Section N: Drill and Exercise Program

This section describes the Drill and Exercise Program that Exelon Nuclear has implemented to:

- Verify the adequacy of the Emergency Preparedness Program.
- Develop, maintain, and evaluate the capabilities of the ERO to respond to emergency conditions and safeguard the health and safety of station personnel and the general public.
- Identify deficiencies in the E-Plan and the associated procedures, or in the training of response personnel, and ensure that they are promptly corrected.
- Ensure the continued adequacy of emergency facilities, supplies and equipment, including communications networks.

The Exercise Cycle is defined as an eight-year period of time until the performance of the first evaluated Hostile Action based exercise. Following performance of the first Hostile Action based exercise, the cycle duration time changed from a six-year period to an eight-year period. Per Section IV.F.2.j of 10CFR50 Appendix E, the first eight-year exercise cycle for a site will begin in the calendar year in which the first hostile action exercise is conducted (but no later than December 31, 2015). During each eight calendar year exercise cycle, sites shall vary the content of scenarios during exercises to provide the opportunity for the ERO to demonstrate proficiency in the key skills necessary to respond to the following scenario elements:

- hostile action directed at the plant site,
- no radiological release or an unplanned minimal radiological release that does not require public protective actions,
- an initial classification of or rapid escalation to a Site Area Emergency or General Emergency,
- implementation of strategies, procedures, and guidance developed under § 50.54(hh)(2), and integration of offsite resources with onsite response.

Exelon uses drill and exercise scenarios that provide reasonable assurance that anticipatory responses do not result from preconditioning of participants. Such scenarios include a wide spectrum of radiological releases and events, including hostile action

1. Exercises

a. Biennial Exercises

Federally prescribed exercises are conducted at Three Mile Island in order to test the adequacy of timing and content of implementing procedures and methods; to test emergency equipment and communication networks; and to ensure that emergency personnel are familiar with their duties. Exercises involving offsite agency participation, required under Section F.2.c & d to 10 CFR 50 Appendix E, are conducted based on FEMA-REP-14 guidance and the state and local emergency response plans.

Partial participation means appropriate offsite authorities shall actively take part in the exercise sufficient to test direction and control functions to include protective action decision making related to Emergency Action Levels and communication capabilities among affected state and local authorities and Exelon Nuclear.

Full participation exercises will include appropriate offsite local and state authorities and Exelon personnel physically and actively taking part in testing the integrated capability to adequately assess and respond to an accident at the plant. Additionally, full participation exercises will include testing the major observable portions of the onsite and offsite emergency plans and mobilization of state, local, and Exelon personnel and other resources in sufficient numbers to verify the capability to respond to the accident scenario.

Where partial or full participation by offsite agencies occurs, the sequence of events simulates an emergency that results in the release of radioactivity to the offsite environs, sufficient in magnitude to warrant a response by offsite authorities.

b. Off-Year Exercises

An Off-Year Exercise is conducted at each station during the calendar year when an NRC Evaluated Exercise is not scheduled. An Off-Year Exercise shall involve a combination of at least two facilities in order to demonstrate at least two of the functions of management and coordination of emergency response, accident assessment, protective action decision-making, or plant system repair and corrective actions. For Off-Year Exercises involving no or limited participation by offsite agencies, emphasis is placed on development and conduct of an exercise that is more mechanistically and operationally realistic. Players will be able, by implementing appropriate procedures and corrective actions, to determine the outcome of the scenario to a greater extent than when core damage and the release of radioactivity are prerequisites for demonstration of all objectives.

c. Pre-Exercises

Pre-Exercise Drills should be conducted prior to a Biennial Exercise where Federal Emergency Management Agency (FEMA) evaluation of state and local performance is expected. Pre-Exercise Drills may be conducted prior to Off-Year Exercises that only involve the utility. The Pre-Exercise is a training and experience tool for the participants to sharpen awareness and practice skills necessary to accomplish specific E-Plan duties and responsibilities.

Exercises provide an opportunity to evaluate the ability of participating organizations to implement a coordinated response to postulated emergency conditions. Exercises are conducted to ensure that all major elements of the E-Plan and preparedness program are demonstrated at least once in each exercise cycle. Each station shall conduct at least one off-hours exercise between 6:00 p.m. and 4:00 a.m. every exercise cycle. Weekends and holidays are also considered off-hours periods. Provisions will be made for qualified personnel from Exelon, federal, state, or local governments to observe and critique each exercise as appropriate.

2. Drills

In addition to the exercises described above, Exelon conducts drills for the purpose of testing, developing, and maintaining the proficiency of emergency responders. Drills are scheduled on the Emergency Preparedness annual events plan, which contains provisions for the following drills:

a. Communication Drills

- Monthly - The capability of the Nuclear Accident Reporting System (NARS) to notify the state and local government warning points and EOCs within the plume exposure pathway EPZ are demonstrated. Also, the capability to notify the NRC is demonstrated using the Emergency Notification System (ENS) and the Health Physics Network (HPN) where available.
- Quarterly - The capability to notify the NRC Region, FEMA Region, American Nuclear Insurers (ANI) and federal emergency response organizations as listed in the Emergency Response Facilities (ERF) Telephone Directory are demonstrated from the EOF. Also, computer and critical communications equipment shall be functionally tested.

Communications between states outside the 10 mile EPZ but within the 50-mile EPZ are tested by the host state.

- Annually - The emergency communications systems outlined in Section F are fully tested. This includes (1) communications between the plant and the state and local EOCs and Field Monitoring Teams, and (2) communications between the CR, the TSC, and the EOF.

Each of these drills includes provisions to ensure that all participants in the test are able to understand the content of the messages.

- b. Fire Drills: Fire drills shall be conducted at Three Mile Island in accordance with Station Technical Specifications and/or Station procedures.
- c. Medical Emergency Drills: A medical emergency drill, involving a simulated contaminated individual, and containing provisions for participation by local support services organizations (i.e., ambulance and support hospital) are conducted annually. Local support service organizations, which support more than one station, shall only be required to participate once each calendar year. The offsite portions of the medical drill may be performed as part of the required biennial exercise.
- d. Radiological Monitoring Drills: Plant environs and radiological monitoring drills (onsite and offsite) are conducted annually. These drills include collection and analysis of all sample media (such as, water, vegetation, soil, and air), and provisions for communications and record keeping.
- e. Health Physics Drills: Health Physics Drills involving a response to, and analysis of, simulated airborne and liquid samples and direct radiation measurements within the plant are conducted semi-annually. At least annually, these drills shall include a demonstration of the sampling system capabilities, ~~or the Core Damage Assessment Methodology (CDAM) objectives as applicable.~~
- f. Augmentation Drills: Augmentation drills serve to demonstrate the capability of the process to augment the on-shift staff with a TSC, OSC and EOF in a short period after declaration of an emergency. These drills are conducted using the following methods:
- Quarterly, each station will initiate an unannounced off-hours ERO augmentation drill where no actual travel is required. Each region's Corporate ERO shall also perform an unannounced off-hours ERO augmentation drill that may be conducted independent of, or in conjunction with, a station drill.
 - At least once per exercise cycle, an off-hours unannounced activation of the ERO Notification System with actual response to the emergency facilities is conducted by each station. Each region's Corporate ERO need only participate once per cycle.
- g. Accountability Drills: Accountability drills are conducted annually. The drill includes identifying the locations of all individuals within the protected area.

3. Conduct of Drills and Exercises

Advance knowledge of the scenario will be kept to a minimum to allow "free-play" decision making and to ensure a realistic participation by those involved. Prior to the drill or exercise, a package will be distributed to the controllers and evaluators that will include the scenario, a list of performance objectives, and a description of the expected responses.

For each emergency preparedness exercise or drill conducted, a scenario package is developed that includes at least the following:

- a. The basic objective(s) of the drill or exercise and the appropriate evaluation criteria.
- b. The date(s), time period, place(s), and participating organizations.
- c. The simulated events.
- d. A time schedule of real and simulated initiating events.
- e. A narrative summary describing the conduct of the scenario to include such things as simulated casualties, offsite fire department assistance, rescue of personnel, use of protective clothing, deployment of radiological monitoring teams, and public information activities.
- f. A description of the arrangements for and advance materials to be provided to official observers.

Prior approval by the appropriate station management is obtained for all drills and exercises conducted in support of the Emergency Preparedness Program.

4. Critique and Evaluation

Drill and exercise performance objectives are evaluated against measurable demonstration criteria. As soon as possible following the conclusion of each drill or exercise, a critique is conducted to evaluate the ability of the ERO to implement the E-Plan and procedures.

A formal written critique report is prepared by Emergency Preparedness following a drill or exercise involving the evaluation of designated objectives or following the final simulator set with ERO participation. The report will evaluate the ability of the ERO to respond to a simulated emergency situation. The report will also contain corrective actions and recommendations.

Biennially, representatives from the NRC observe and evaluate the licensee's ability to conduct an adequate self-critical critique. For partial and full offsite participation exercises both the NRC and FEMA will observe, evaluate, and critique.

Critique comments identified by participants during a training drill where objectives are not formally being evaluated will be reviewed and dispositioned by Emergency Preparedness, but do not require a formal report.

5. Resolution of Drill and Exercise Findings

The critique and evaluation process is used to identify areas of the Emergency Preparedness Program that require improvement. The Emergency Preparedness Manager is responsible for evaluation of recommendations and comments to determine which items will be incorporated into the program or require corrective actions, and for the scheduling, tracking, and evaluation of the resolution to the items.

Whenever exercises and/or drills indicate deficiencies in the E-Plan or corresponding implementing procedures, such documents will be revised as necessary.

Remedial exercises will be required if the emergency plan is not satisfactorily tested during the Biennial Exercise, such that NRC, in consultations with FEMA, cannot find reasonable assurance that adequate protective measures can be taken in the event of a radiological emergency. The extent of State and local participation in remedial exercises must be sufficient to show that appropriate corrective measures have been taken regarding the elements of the plan not properly tested in the previous exercises.

Section O: Emergency Response Training

This section describes the emergency response training that is provided to those who may be called upon in an emergency. It outlines the training provided by Exelon Nuclear to both its employees and offsite support personnel requiring site access.

1. Assurance of Training

The E-Plan Training Program assures the training, qualification, and requalification of individuals who may be called on for assistance during an emergency. Specific emergency response task training, prepared for each E-Plan position, is described in lesson plans and study guides. The lesson plans, study guides, and written tests are contained in the ERO Training Program. Responsibilities for implementing the training program are contained in plant procedures. Exelon personnel who are assigned an E-Plan position will receive retraining at a frequency of once per calendar year not to exceed 18 months between training sessions.

Offsite training is provided to support organizations that may be called upon to provide assistance in the event of an emergency. The following outlines the training received by these organizations:

- a. Emergency Preparedness shall annually train, or document an annual written offer to train, those non-Exelon Nuclear organizations referenced in the Station Annex that may provide specialized services during a nuclear plant emergency (e.g., local law enforcement, fire-fighting, medical services, transport of injured, etc.). The training made available is designed to acquaint the participants with the special problems potentially encountered during a nuclear plant emergency, notification procedures and their expected roles. Those organizations that must enter the site shall also receive site-specific emergency response training and be instructed as to the identity (by position and title) of those persons in the onsite organization who will control their support activities.
- b. Training of offsite emergency response organizations is described in their respective radiological emergency plans, with support provided by Exelon Nuclear as requested.

2. Functional Training of the ERO

In addition to general and specialized classroom training, members of the Three Mile Island ERO receive periodic performance based emergency response training. Performance based training is provided using one or more of the following methods:

- Familiarization Sessions: A familiarization session is an informal, organized tabletop discussion of predetermined objectives.
- Walk Throughs: Consists of a facility walk through to familiarize plant ERO personnel with procedures, communications equipment, and facility layout. Walk throughs also provide the opportunity to discuss facility activities, responsibilities and procedures with an instructor.

- Drills: A drill is a supervised instruction period aimed at testing, developing and maintaining skills in a particular operation. Drills described in Section N of this plan are a part of training. These drills allow each individual the opportunity to demonstrate the ability to perform their assigned emergency functions. During drills, on-the-spot correction of erroneous performance may be made and a demonstration of the proper performance offered by the Controller.

3. First Aid Response

Selected station personnel are trained in accordance with the Exelon Nuclear approved First Aid Program. First-Aid Teams will likely be augmented with additional personnel such as Fire Brigade Members and other personnel qualified to assist in the rescue.

4. Emergency Response Organization Training Program

Three Mile Island ERO personnel who are responsible for implementing this plan receive specialized training. The training program for emergency response personnel is developed based on the requirements of 10 CFR 50, Appendix E and position specific responsibilities as defined in this document.

On-Shift emergency response personnel perform emergency response activities as an extension of their normal duties and are trained annually as part of their duty specific training. Additional Emergency Preparedness information is provided as part of the Station Nuclear General Employee Training.

New ERO personnel receive an initial overview course that familiarizes them with the E-Plan by providing basic information in the following areas as well as specific information as delineated in the sections below:

- Planning Basis
- Emergency Classifications
- Emergency Response Organization and Responsibilities
- Call-out of Emergency Organization
- Emergency Response Facilities
- Communications Protocol/Emergency Public Information
- Offsite Organizations

Emergency response personnel in the following categories receive knowledge and/or performance based training initially and retraining thereafter once per calendar year not to exceed 18 months between training sessions.

- a. Directors, Managers and Coordinators within the station and corporate ERO: Personnel identified by the Emergency Response Organization Telephone Directory as Directors, Managers and Coordinators for the station and corporate EROs receive training appropriate to their position in accordance with the approved ERO Training Program. These personnel receive specialized training in the areas of:

- Notifications
- Emergency Classifications
- Protective Action Recommendations
- Emergency Action Levels
- Emergency Exposure Control

Selected Directors, Managers, Coordinators and Shift Emergency Directors receive training in accordance with the approved ERO Training Program. Training in accident assessment sufficient to classify an event and to mitigate the consequences of an event are also covered.

- b. Personnel Responsible for Accident Assessment:

The skills and knowledge required to perform plant stabilization and mitigation are a normal function of operations specific positions, as identified in Section B of this plan. ~~Power changes and planned and unplanned reactor shutdowns are handled on a normal operation basis.~~ Subsequent plant stabilization and restoration is pursued utilizing normal operating procedures. ~~Licensed~~ Qualified Operators receive routine ~~classroom and simulator~~ training to ensure proficiency in this area.

- 1) ~~Active Senior Licensed~~ Control Room Personnel shall have training conducted in accordance with the approved ERO Training Program such that proficiency is maintained on the topics listed below. These subjects shall be covered as a minimum on an annual basis.

- Event Classification.
- Protective Action Recommendations.
- Radioactive Release Rate Determination.
- Notification form completion and use of the Nuclear Accident Reporting System (NARS).
- Federal, state and local notification procedures as appropriate.

- Site specific procedures for activating the onsite and offsite ERO.

To remove peripheral duties from the Operations shift, the following group of positions responsible for accident assessment, corrective actions, protective actions, and related activities receive the training listed below:

~~2) Core Damage Assessment Personnel: During an emergency when core/cladding damage is suspected, a specialized group of trained individuals perform core damage assessment. At a minimum, personnel responsible for core damage assessment receive classroom and hands-on training in the following areas:~~

- ~~• Available Instrumentation and Equipment~~
- ~~• Isotopic Assessment and Interpretation~~
- ~~• Computerized Core Damage Assessment Methodology (CDAM) and/or proceduralized assessment methods.~~

c. Radiological Monitoring Teams and Radiological Analysis Personnel

- 1) Offsite Radiological Monitoring: Offsite radiological monitoring is performed by trained individuals who provide samples and direct readings for dose assessment calculations and dose projection comparisons.

Personnel identified as members of Field Monitoring Teams receive training in accordance with the approved training program. Field Monitoring Team members receive classroom and hands-on training in the following areas:

- Equipment and Equipment Checks
- Communications
- Plume Tracking Techniques

- 2) Personnel Monitoring: Personnel monitoring is performed by trained individuals who monitor station personnel and their vehicles for contamination during an emergency. Personnel Monitoring Team members receive classroom and hands-on training in the following areas:

- Personnel Monitoring Equipment and Techniques
- Decontamination Techniques for Personnel
- Decontamination Techniques for Vehicles

3) Dose Assessment: Dose Assessment training includes the skills and knowledge necessary for calculation and interpretation of an offsite release and its impact on the environment under varying meteorological conditions. Individuals responsible for performing dose assessment are trained in the following areas:

- Computerized Dose Assessment
- Protective Action Recommendations
- Field Monitoring Team Interface
- Protective Action Guidelines associated with offsite plume exposure doses
- Basic Meteorology

d. Police, Security, and Fire Fighting Personnel

1) Local Police and Fire Fighting Personnel: The local Police and Fire Departments are invited to receive training as outlined in Part 1.a of this section.

2) Security Personnel: Station security personnel are trained in accordance with training defined by the Nuclear General Employee Training (NGET) and Exelon Nuclear Security Program.

3) Fire Control Teams (fire brigades): Station fire brigades are trained in accordance with training defined by the Exelon Nuclear Fire Protection Program. Fire Brigade personnel are considered the primary members of rescue teams and will receive the appropriate EP training as part of their training program. Training also includes rescue of personnel from hazardous environments.

e. Repair and Damage Control Teams: Operations, Maintenance and Radiation Protection personnel are trained as part of their normal job specific duties to respond to both normal and abnormal plant operations.

Operations personnel are trained to: (1) recognize and to mitigate degrading conditions in the plant, (2) mechanically and electrically isolate damaged or malfunctioning equipment, (3) isolate fluid leaks, and (4) minimize transients.

Maintenance personnel are trained to troubleshoot and repair damaged or malfunctioning electrical, mechanical, or instrumentation systems as appropriate to their job classification.

Radiation Protection personnel are trained to assess the radiological hazards associated with equipment repair and instruct personnel as to the appropriate protective clothing requirements, respiratory protection requirements, stay times, and other protective actions specific to the conditions present.

At least 50% of personnel from those departments, who are potential responders to the OSC as Damage Control Team members, are required to be qualified in the use of respiratory protection equipment. This includes in-plant supervision and craft/technicians for the following departments:

- Operations
- Radiation Protection/[Chemistry](#)
- ~~Chemistry~~
- Maintenance (mechanical, electrical and I&C)

- f. First Aid and Rescue Personnel: First aid and rescue team members receive training as outlined in Part 3 of this section.
- g. Local Support Service Personnel: Local support service personnel providing assistance during an emergency are invited to receive training as outline in Parts 1.a and 1.b of this section.
- h. Medical Support Personnel: Onsite medical personnel receive specialized training in the handling of contaminated victims and hospital interface. Offsite ambulance and hospital personnel are offered annual training in accordance with a program provided by Emergency Preparedness.
- i. Public Information Personnel: Corporate and station personnel responsible for disseminating emergency public information and responding to media and public information requests receive specialized public information training.
- j. Communications Personnel: ERO personnel receive training on communications protocol as a part of the initial Emergency Response Overview Course. Personnel using specialized communications equipment that is not part of their normal daily function receive initial and requalification training on the equipment. Personnel involved in notifications to offsite agencies receive specialized training in the notification process.

5. General, Initial, and Requalification Training Program Maintenance

- a. Station Departments and Emergency Preparedness share the responsibility for ensuring that the ERO receives all necessary training and retraining. In order to carry this out, responsibilities are assigned as follows:

Corporate Responsibilities for Corporate ERO Personnel

- Scheduling and conducting initial, retraining, and make-up classes.
- Acting as the sole contact point for ensuring attendance.
- Record keeping for the training courses, including dates of scheduled classes and non-attendance information.

- Verifying that all emergency response personnel training records are current.
- Ensure instructional materials are prepared and reviewed every two years.

Station Responsibilities for Station ERO Personnel

- Station management shall ensure the attendance of onsite personnel for training, including required E-Plan courses.
 - Each Station shall conduct onsite emergency personnel initial and retraining for station Emergency Response Personnel using approved lesson plans.
 - The Station Training Department shall provide those shift personnel included in a continuing training program an annual review of the following items as a minimum:
 - Assembly Areas
 - Emergency Response Facility assignment
 - Potential Hazards (radiological and non-radiological)
 - Anticipated actions including assembly requirements, protective equipment requirements (clothing, masks, SCBA, etc.), the use of KI, emergency exposure limits and accountability requirements.
- b. Initial and Regualification ERO Training: The proficiency of emergency response personnel (as defined in 10 CFR 50 Appendix E) is ensured by the following means:
- Assigning persons to emergency duties that are similar to those performed as a part of their regular work assignment or experience.
 - Initial training and annual retraining on applicable generic and site-specific portions of the E-Plan and the corresponding implementing procedures. Individuals not demonstrating the required level of knowledge in initial or retraining classes receive additional training on the areas requiring improvement. Annual retraining is conducted **once** per calendar year not to exceed 18 months between training sessions.
 - Training is required for changes to the Emergency Plan and Station Annexes that are not editorial or minor in nature including changes that impact the resources, capabilities, or methods associated with Planning Standards, Program Elements, or 10CFR50 Appendix E, and modify program requirements or commitments. Training on E-Plan changes shall be completed within one hundred twenty (120) days of implementation of the change.

- Participation in exercises and/or drills as developed or authorized by the Emergency Preparedness Department and designed to sharpen those skills that they are expected to use in the event of a nuclear emergency.

All personnel assigned position specific responsibilities in the ERO are documented by inclusion in the Emergency Response Organization Telephone directory listing of positions and personnel.

- c. Nuclear General Employee Training (NGET): All personnel with unescorted station access are provided with initial orientation training on the notification and instruction methods used in the event of an emergency. Additionally, all badged individuals also receive initial orientation on the basic principles of radiological safety including the effects of radiation and the theory and use of radiation detection devices. Appropriate actions for escorted individuals shall be the responsibility of the escort. NGET provides initial and annual requalification training on the basic elements of the E-Plan for all personnel working at the plant. Specifically, these elements include:

- Station emergency alarms and their meaning
- Assembly areas
- Site and Exclusion Area Evacuation procedures
- Special precautions and limitations during an emergency
- Purpose of the E-Plan

Section P: Responsibility for the Maintenance of the Planning Effort

This section describes the responsibilities for development, review and distribution of the E-Plan and actions that must be performed to maintain the emergency preparedness program. It also outlines the criteria for insuring that personnel who perform the planning are properly trained.

1. Emergency Preparedness Staff Training

The Emergency Preparedness staff is involved in maintaining an adequate knowledge of state of the art planning techniques and the latest applications of emergency equipment and supplies. At least once each calendar year each member of the Emergency Preparedness staff is involved in one of the following activities:

- Training courses specific or related to emergency preparedness.
- Observation of or participation in drills and/or exercises at other stations.
- Participation in industry review and evaluation programs.
- Participation in regional or national emergency preparedness seminars, committees, workshops or forums.
- Specific training courses in related areas, such as systems, equipment, operations, radiological protection, or Problem Identification & Resolution (PI&R).

2. Authority for the Emergency Preparedness Effort

The ~~Site Vice President~~Plant Manager is responsible for the safe and reliable operation of the ~~generating~~station. The issuance and control of this plan and the activities associated with emergency preparedness at Three Mile Island shall be the overall responsibility of the Vice President, Fleet Support. This individual is assigned the responsibility for overall implementation of the E-Plan and Station Annexes.

3. Responsibility for Development and Maintenance of the Plan

Each regional Emergency Preparedness Manager is responsible for the overall radiological emergency preparedness program associated with the operation of the nuclear power stations within their respective region and to administer the program to ensure availability of resources in the event of an emergency. The regional Emergency Preparedness Managers report to an EP Director who in turn reports to the Vice President, Fleet Support.

The Emergency Preparedness Managers are assisted by regional corporate and Station Emergency Preparedness staff. Specific responsibilities include the following:

Program Administration

- Develop and maintain the E-Plan, Station Annex, implementing procedures and administrative documents.
- Develop and maintain 50.54(q) evaluations for changes to EP documents.
- Coordinate and maintain the EP Activities Schedule.
- Develop and maintain working relationships and coordinate meetings with Federal, state and local agencies.
- Ensure integration of plans between Exelon and offsite agencies.
- Provide an opportunity to discuss Emergency Action Levels and the availability of Nuclear Oversight audit results relating to interface with governmental agencies.
- Coordinate, negotiate and maintain agreements and contracts with offsite agencies and support organizations.
- Obtain Letters of Agreement with medical facilities, and medical consultants specifically skilled in the medical aspects of radiation accidents and other medical consultants as might be necessary for the case of a person involved in a radiation incident.
- Coordinate the development and annual distribution of the station's public information publication.
- Coordinate and administer the Self Evaluation Program to monitor and evaluate the adequacy of the Emergency Preparedness Program.
- Coordinate and support EP Self-Assessments, Audits and Inspections.
- Ensure the documentation and resolution of adverse conditions in the emergency preparedness program discovered through drills, audits, etc. in accordance with the Exelon Nuclear Corrective Action Program.
- Coordinate and develop Operational Experience responses.
- Coordinate, document and review Performance Indicator data and reports.
- Provide oversight of Drill and Exercise Performance (DEP) evaluations during ~~License~~ Operator Requalification (~~LOR~~) Training.
- Coordinate and conduct EP Event reviews and reports.

- Maintain adequate documentation/files to support EP activities.
- Develop and manage the EP budget.
- Maintain the Emergency Response Facilities (ERF) Telephone Directory.

Drills and Exercises

- Coordinate and maintain the EP Drill and Exercise Schedule.
- Coordinate and conduct exercises and drills.
- Coordinate NRC, FEMA, state, and local exercise scheduling and development activities.
- Coordinate drill and exercise scenario development activities.
- Develop and publish drill and exercise scenario manuals.
- Coordinate and perform controller and evaluator functions for drills and exercises.
- Coordinate response cells for drills and exercises.
- Develop and issue drill and exercise reports.

Facilities and Equipment

- Provide maintenance and administration of the Alert and Notification System (ANS).
- Provide maintenance of the ERO call-out system.
- Ensure the Emergency Response Facilities are maintained in a constant state of readiness.
- Coordinate and review the EP equipment inventories.
- Coordinate and conduct maintenance and testing of the communications systems.
- Maintain the EP computer applications.

ERO Qualification and Administration

- Develop and maintain ERO Lesson Plans, Examinations, and Qualification Cards.
- Maintain EP NGET training content.

- Coordinate, schedule and conduct ERO qualification and requalification training.
- Oversee the maintenance of ERO training records.
- Maintain and coordinate publishing of the ERO Duty Rosters.
- Provide adequate oversight and support for the training of offsite response personnel.
- Coordinate conduct of Emergency Medical Assistance Program training.
- Coordinate annual training for the media.

The Three Mile Island Plant Manager is responsible for implementation of the E-Plan at Three Mile Island. The Plant Manager has the following responsibilities for maintenance of the Emergency Preparedness Program:

- Ensure the adequate staffing and training of station ERO members.
- Schedule and conduct drills and exercises to maintain the state of readiness of the Emergency Preparedness Program.
- Ensure the operational readiness of station facilities and communication systems for use during an emergency.
- Ensure the operational readiness of station emergency equipment and supplies is maintained.
- Ensure the emergency response procedures and the training and retraining of Station Emergency Response personnel are maintained.

4. E-Plan and Agreement Revisions

The E-Plan, its Annex, and supporting Agreements are reviewed on an annual basis. This review may also include applicable state and local emergency response agencies based on established agreements.

The annual E-Plan review/update includes required changes identified during audits, assessments, training, drills, and exercises. The Emergency Preparedness Director is responsible for determining which recommended changes are incorporated into a plan or emergency procedure revision. In those years when the review does not warrant a revision, a letter to that affect will be issued.

The E-Plan and its Annex shall be revised as needed and the most current approved revisions shall remain in effect so long as they are certified as current. Revisions to the E-Plan are reviewed by the Station's Plant Operational Review Committee (PORC) prior to approval. Changes to the plan are made without NRC approval only if such changes do not result in a reduction in effectiveness of the plan per 10 CFR 50.54(q), and the plan as changed continues to meet the standards of 10 CFR 50.47(b) and the requirements of 10 CFR 50, Appendix E. Proposed changes that reduce or have a potential to reduce the effectiveness of the approved plan are not implemented without prior approval by the NRC.

- Proposed revisions to the E-Plan and Station Annex shall be completed in accordance with the Exelon Nuclear review and approval processes.
- E-Plan and Station Annex changes shall be categorized as (1) minor/administrative or (2) significant programmatic changes. Minor/administrative changes shall be implemented within 30 days of approval. Significant programmatic changes shall be implemented as soon as practical and within 60 days of final approval.
- After review and approval, the E-Plan and Station Annex shall be:
 - a) Reviewed by the applicable Emergency Preparedness Manager(s) and EP Director, or designee(s), and
 - b) Approved for use by the Vice President, Fleet Support or designee.
- The Implementing Procedures shall be developed and revised concurrent with the E-Plan and Annex, and reviewed every two years.

Annually, each Letter of Agreement is reviewed and certified current in order to assure the availability of assistance from each supporting organization not already a party to the individual State Plan for Radiological Accidents.

5. E-Plan Distribution

E-Plan manuals, Station Annex, and implementing procedures are distributed on a controlled basis to the Emergency Response Facilities. All controlled documents holders are issued revision changes upon approval. Selected Federal, state, and local agencies, and other appropriate locations requiring them are also issued copies. Procedures are in place that control the revision of the E-Plan and require the use of revision bars and individual page identifications (i.e. section of plan, revision number, etc.).

6. Supporting Emergency Response Plans

Other plans that support this E-Plan are:

- NUREG-1471, US Nuclear Regulatory Commission, "Concept of Operations: NRC Incident Response"

- National Response Framework (NRF), Nuclear/Radiological Incident Annex.
- Commonwealth of Pennsylvania Radiological Emergency Response Plan.
- ~~INPO Emergency Resources Manual.~~
- Nuclear Station Security Plans - Note: The Station Security Plan contains industrial security information that must be withheld from public disclosure under provisions of 10 CFR 2.790(d).

7. Implementing and Supporting Procedures

Appendix 2 of this plan contains a listing, by number and title, of those procedures that implement this plan during an emergency. Additionally, administrative procedures that outline the steps taken to maintain the Exelon Emergency Preparedness Program have been developed and are listed in Appendix 2.

8. Cross Reference to Planning Criteria

The Plan is formatted in the same manner as NUREG-0654, FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in support of Nuclear Power Plants." The use of this format lends itself to uncomplicated comparison of the criteria set forth in NUREG-0654, FEMA-REP-1.

9. Audit/Assessment of the Emergency Preparedness Program

To meet the requirements of 10 CFR 50.54(t), Exelon Nuclear Oversight shall coordinate an independent review the Emergency Preparedness Program to examine conformance with 10 CFR 50.47, 10 CFR 50.54, and 10 CFR 50 Appendix E. Included in the audit/assessment are the following:

- The E-Plan and associated implementing procedures.
- The Emergency Preparedness Training Program including drills and exercises.
- The readiness of the station Emergency Response Organization to perform its function.
- The readiness of facilities and equipment to perform as outlined in the plan and procedures.
- The interfaces between Exelon, the state, and county governmental agencies pertaining to the overall Emergency Preparedness Program.

Results of this audit are submitted for review to Corporate Management and the ~~Station Vice President~~ Plant Manager. The Emergency Preparedness Manager ensures that any findings that deal with offsite interfaces are reviewed with the appropriate agencies. Written notification will be provided to the state and counties of the performance of the audit and the availability of the audit records for review at Exelon facilities. Records of the audit are maintained for at least five years.

10. Maintenance of Emergency Organization Telephone Directory

Names and phone numbers of the Emergency Response Organization and support personnel shall be reviewed and updated at least quarterly.

Appendix 1: References

References consulted in the writing of this E-Plan are listed in this section. With exception of regulatory requirements, inclusion of material on this list does not imply adherence to all criteria or guidance stated in each individual reference.

1. 10 CFR 50.47, Emergency Plans
2. 10 CFR 50.72, Immediate Notification Requirements for Operating Nuclear Power Reactors
3. 10 CFR 50 Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants
4. 10 CFR 50 Appendix E, Emergency Planning and Preparedness for Production and Utilization Facilities
5. 10 CFR 20, Standards for Protection Against Radiation
6. 10 CFR 70, 73, and 100.
7. 33 CFR 153.
8. 40 CFR 110, 112, 116, 118, 302 and 355.
9. 44 CFR 350.
10. 44 CFR 401.
11. 49 CFR 171 and 172.
12. NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, November, 1980.
13. NUREG-0654, Supplement 1, "Criteria for Utility Offsite Planning and Preparedness."
14. NUREG-0654, Supplement 3, "Criteria for Protective Action Recommendations for Severe Accidents."
15. NUREG-0396, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," Dec. 1978.
16. NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations."
17. NUREG-0696, Revision 1, Functional Criteria for Emergency Response Facilities

18. NUREG-0737, Clarification of TMI Action Plan Requirements, dated October 1980.
19. NUREG-0737, Supplement 1, Requirements for Emergency Response Capability, December 1982.
20. NUREG 0728 - "Report to Congress: NRC Incident Response Plan."
21. US NRC Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors," revision 4, July, 2003.
22. U.S. NRC Response Technical Manual (RTM-96)
23. NEI 99-01, Methodology for Development of Emergency Action Levels.
24. EPA 400-R-92-001, October 1991, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents."
25. FEMA-REP-10, Guide for Evaluation of Alert and Notification Systems for Nuclear Power Plants
26. FEMA-REP-14, Exercise Evaluation Methodology
27. FEMA-Guidance Memorandum, MS-1 "Medical Services"
28. Exelon Nuclear Quality Assurance Topical Report (QATR), NO-AA-10
- ~~29. INPO Emergency Resources Manual~~
- ~~30. "Maintaining Emergency Preparedness Manual," dated December, 1996 INPO 96-009.~~
- ~~31.~~29. "Federal Bureau of Investigation and Nuclear Regulatory Commission Memorandum of Understanding for Cooperation Regarding Threat, Theft, or Sabotage in U.S. Nuclear Industry," Federal Register, Vol. 44, p. 75535, December 20, 1979.
- ~~32.~~30. "Voluntary Assistance Agreement By and Among Electric Utilities involved in Transportation of Nuclear Materials," dated November 1, 1980.
- ~~33.~~31. Comprehensive Environmental Response, Compensation and Liability Act of 1980.
- ~~34.~~32. Accidental Radioactive Contamination of Human Food and Animal Feeds; Recommendation for State and Local Agencies, Volume 47, No. 205, October 22, 1982.
- ~~35.~~33. American Nuclear Insurers Bulletin #5B (1981), "Accident Notification Procedures for Liability Insureds".

- ~~36-34.~~ "Potassium Iodide as a Thyroid Blocking Agent in a Radiation Emergency: Final Recommendations on Use," Federal Register Vol. 47, No. 125, June 29, 1982.
- ~~37-35.~~ Letter from William J. Dircks, Executive Director for Operations, NRC, to Dr. Donald F. Knuth, President KMC, Inc. dated October 26, 1981.
- ~~38. INPO Coordination agreement on emergency information among USCEA, EPRI, INPO, NUMARC and their member utilities, dated April (1988).~~
- ~~39-36.~~ Babcock and Wilcox Company, Post Accident Sample Offsite Analysis Program (1982).
- ~~40-37.~~ ANI/MAELU Engineering Inspection Criteria For Nuclear Liability Insurance, Section 6.0, Rev. 1, "Emergency Planning."
- ~~41-38.~~ NRC RIS 2006-12, Endorsement of Nuclear Energy Institute Guidance "Enhancement to Emergency Preparedness Programs for Hostile Action."
- ~~42-39.~~ NRC Bulletin 2005-02, "Emergency Preparedness and Response Actions for Security-Based Events."
- ~~43-40.~~ NRC Information Notice 2009-01, National Response Framework

Appendix 2: Procedure Cross-Reference to NUREG-0654

Criteria	Planning Standard	Procedure/Document
NUREG-0654.II.A	Assignment of Responsibility (Organization Control)	EP-AA-120, Emergency Plan Administration
		Letters of Agreement
NUREG-0654.II.B	Onsite Emergency Organization	EP-AA-112, Emergency Response Organization (ERO) / Emergency Response Facility (ERF) Activation and Operation
		~~EP-AA-130, 10 CFR 50 Appendix E, On-Shift Staffing Assessment~~
NUREG-0654.II.C	Emergency Response Support and Resources	EP-AA-112-400, Emergency Operations Facility Activation and Operations
NUREG-0654.II.D	Emergency Classification System	EP-AA-111, Emergency Classification and Protective Action Recommendations
NUREG-0654.II.E	Notification Methods and Procedures	EP-AA-114, Notifications
NUREG-0654.II.F	Emergency Communications	EP-AA-114, Notifications
		EP-AA-124, Inventories and Surveillances
NUREG-0654.II.G	Public Education and Information	EP-AA-120, Emergency Plan Administration
NUREG-0654.II.H	Emergency Facilities and Equipment	EP-AA-112, Emergency Response Organization (ERO) / Emergency Response Facility (ERF) Activation and Operation
		EP-AA-121, Emergency Response Facilities and Equipment Readiness
		EP-AA-120-1006, EP Reportability – Loss of Emergency Preparedness Capabilities
		EP-AA-123, Computer Programs
		EP-AA-124, Inventories and Surveillances
		EP-AA-125-1004, Emergency Response Facilities & Equipment Performance Indicators Guidance
NUREG-0654.II.I	Accident Assessment	EP-AA-110, Assessment of Emergencies
		EP-AA-123, Computer Programs
NUREG-0654.II.J	Protective Response	EP-AA-113, Personnel Protective Actions
		EP-AA-123, Computer Programs
NUREG-0654.II.K	Radiological Exposure Control	EP-AA-110, Assessment of Emergencies
		EP-AA-113, Personnel Protective Actions
NUREG-0654.II.L	Medical and Public Health Support	EP-AA-120, Emergency Plan Administration
NUREG-0654.II.M	Recovery and Reentry Planning and Post-Accident Operations	EP-AA-115, Termination and Recovery
		EP-AA-120-1002, Offsite Readiness Evaluation
NUREG-0654.II.N	Exercises and Drills	EP-AA-122, Drills & Exercises Program

Criteria	Planning Standard	Procedure/Document
		EP-AA-125-1001, EP Performance Indicator Guidance
		EP-AA-125-1002, ERO Performance – Performance Indicators Guidance
		EP-AA-125-1003, ERO Readiness - Performance Indicators Guidance
NUREG-0654.II.O	Radiological Emergency Response Training	TQ-AA-113, ERO Training And Qualification
NUREG-0654.II.P	Responsibility for the Planning Effort: Development, Periodic Review and Distribution of Emergency Plans	EP-AA-1, Emergency Preparedness
		EP-AA-10, Emergency Preparedness Program Description
		EP-AA-11, Operating Stations Emergency Preparedness Process Description
		EP-AA-1101, EP Fundamentals
		EP-AA-1102, ERO Fundamentals
		EP-AA-120, Emergency Plan Administration
		EP-AA-125, Emergency Preparedness Self Evaluation Process
		Emergency Response Facilities Telephone Directory

Appendix 3: List of Corporate Letters of AgreementsOrganization/Agreement Type

Department Of Energy (DOE) Radiation Emergency
Assistance Center/Training Site, REAC/TS (Letter on File)
Medical Consultant

Environmental, Inc. (P.O.)
Radiological Environmental Monitoring

Landauer, Inc. (P.O.)
Emergency Dosimetry

~~INPO (Letter on File)~~
~~Emergency Event Support~~

Murray & Trettel, Inc. (P.O.)
Meteorological Support

Teledyne Brown Engineering (P.O.)
Bioassay Analysis/Radiochemical Analysis

Red Alert Service (P.O.)
Fire Foam Supply

Appendix 4: Glossary of Terms and Acronyms

Accident Assessment	Accident assessment consists of a variety of actions taken to determine the nature, effects and severity of an accident and includes evaluation of ~~reactor operator status reports~~ , damage assessment reports, meteorological observations, seismic observations, fire reports, radiological dose projections, in plant radiological monitoring, and environmental monitoring.
Activation	(1) "ERO Activation" is the process of initiating actions to notify and mobilize Emergency Response Organization (ERO) personnel following an event classification under the emergency plan. (2) "Facility Activation" refers to the decision to consider a facility fully operational based on the minimum staffing required in ERO staffing tables contained within the station specific Annex and the ability of facility staffing and equipment to perform its designed function(s).
Annual	Frequency of occurrence equal to once per calendar year, January 1 to December 31.
Assembly/Accountability	A procedural or discretionary protective action taken for all persons within the security "Protected Area", which involves the gathering of personnel into pre-designated areas, and the subsequent verification that the location of these personnel is known.
Assessment Actions	Those actions taken during or after an emergency to obtain and process information that is necessary to make decisions to implement specific emergency measures.
Biennial	Frequency of occurrence equal to once per two calendar year periods.
Biennial Exercise	An event that tests the integrated capability and a major portion of the basic elements existing within an emergency plan. An exercise usually involves participation of personnel from state and local governments, utility personnel, and may involve participation of Federal government personnel.

Classification	The classification of emergencies is divided into FIVE (5) categories or conditions, covering the postulated spectrum of emergency situations. The first four (4) emergency classifications are characterized by Emergency Action Levels (EALs) or event initiating conditions and address emergencies of increasing severity. The fifth, the Recovery classification, is unique in that it may be viewed as a phase of the emergency, requiring specific criteria to be met and/or considered prior to its declaration.
Command and Control	When in Command and Control, the designated Emergency Director (Shift, Station or Corporate) has overall responsibility for Exelon Nuclear's emergency response efforts, including the nondelegable responsibilities of Command and Control.
Committed Dose Equivalent (CDE)	The Dose Equivalent to organs or tissues of reference that will be received from an intake of radioactive material by an individual during the 50-year period following the intake.
Corrective Action	Those emergency measures taken to lessen or terminate an emergency situation at or near the source of the problem, to prevent an uncontrolled release of radioactive material, or to reduce the magnitude of a release. Corrective actions include, equipment repair or shutdown, installation of emergency structures, fire fighting, repair, and damage control.
Damage Assessment	Estimates and descriptions of the nature and extent of damages resulting from an emergency or disaster; of actions that can be taken to prevent or mitigate further damage; and of assistance required in response and recovery efforts based on actual observations by qualified engineers and inspectors.
Damage Control	The process of preventing further damage from occurring and preventing the increase in severity of the accident.
Decontamination	The reduction or removal of contaminated radioactive material from a structure, area, material, object, or person. Decontamination may be accomplished by (1) treating the surface so as to remove or decrease the contamination; (2) letting the material stand so that the radioactivity is decreased as a result of natural decay; and (3) covering the contamination.

Dedicated Communications	A communications link between two or more locations, access to which is limited to designated locations, and used only for the purpose intended. The communications link may be either telephone or radio.
Deep Dose Equivalent (DDE)	The dose equivalent at a tissue depth of 1 cm (1000 mg/cm ²); applies to external whole body exposure.
Dose	A generic term that means absorbed dose, dose equivalent, effective dose equivalent, deep dose equivalent, committed dose equivalent, committed effective dose equivalent, or total effective dose equivalent.
Dose Equivalent (DE)	The product of the absorbed dose in tissue, quality factor, and all other necessary modifying factors at the location of interest. The unit of dose equivalent is the Rem.
Dose Projection	The calculated estimate of a radiation dose to individuals at a given location (normally off-site), determined from the source term/quantity of radioactive material (Q) released, and the appropriate meteorological dispersion parameters (X/Q).
Dose Rate	The amount of ionizing (or nuclear) radiation to which an individual would be exposed per unit of time. As it would apply to dose rate to a person, it is usually expressed as rems per hour or in submultiples of this unit, such as millirems per hour. The dose rate is commonly used to indicate the level of radioactivity in a contaminated area.
Dosimeter	An instrument such as a Dosimeter of Legal Record (DLR), self-reading pocket dosimeter (SRPD), or electronic dosimeter (ED) for measuring, registering, or evaluating total accumulated dose or exposure to ionizing radiation.
Dosimeter of Legal Record (DLR)	Specific station type dosimeters used for monitoring personnel and the environment.
Drill	A supervised instruction period aimed at testing, developing and maintaining skills in a particular operation.
Early Phase	The period at the beginning of a nuclear incident when immediate decisions for effective use of protective actions are required and must be based primarily on predictions of radiological conditions in the environment. This phase may last from hours to days. For the purposes of dose projections it is assumed to last four days.

Emergency Action Levels (EALs)	A pre-determined, site-specific, observable threshold for a plant Initiating Condition that places the plant in a given emergency class. An EAL can be an instrument reading; an equipment status indicator; a measurable parameter (onsite or offsite); a discrete, observable event; or another phenomenon which, if it occurs, indicates entry into a particular emergency class.
Emergency Alert System (EAS)	A network of broadcast stations and interconnecting facilities which have been authorized by the Federal Communications Commission to operate in a controlled manner during a war, state of public peril or disaster, or other national or local emergency. In the event of a nuclear reactor accident, instructions/notifications to the public on conditions or protective actions would be broadcast by state or local government authorities on the EAS.
Emergency Director	Individual in Command and Control. One of the following: the Shift Emergency Director (Control Room), Station Emergency Director (TSC) or the Corporate Emergency Director (EOF).
Emergency Notification System (ENS)	The NRC Emergency Notification System hot line is a dedicated telephone system that connects the plant with NRC headquarters in White Flint, Maryland. It is directly used for reporting emergency conditions to NRC personnel.
Emergency Operations Facility (EOF)	Designated location from which the Licensee Emergency Response Organization conducts the company's overall emergency response in coordination with Federal, State and designated emergency response organizations.
Emergency Operating Procedures (EOPs)	EOPs are step-by-step procedures for direct actions taken by ~~licensed reactor~~ qualified operators to mitigate and/or correct an off normal plant condition through the control of plant systems.
Emergency Operations Center (EOC)	A facility designed and equipped for effective coordination and control of emergency operations carried out within an organization's jurisdiction. The site from which civil government officials (municipal, county, state, and Federal) exercise direction and control in a civil defense emergency.
Emergency Personnel	Those organizational groups that perform a functional role during an emergency condition. Within Exelon Nuclear, emergency personnel include the Managers and Directors of the Emergency Response Organization, accident assessment personnel, radiological monitoring teams, fire brigades, first aid teams and security personnel.

Emergency Planning Zones (EPZ)	That area surrounding a nuclear station in which emergency planning is conducted for the protection of the public. With respect to protecting the public from the plume exposure resulting from an incident, the EPZ is usually an area with a radius of about 10 miles surrounding the facility. With respect to the ingestion exposure pathway, the EPZ is usually an area with a radius of about 50 miles.
Emergency Preparedness	A state of readiness that provides reasonable assurance that adequate protective measures can and will be taken upon implementation of the E-Plan in the event of a radiological emergency.
~~Emergency Response Data System (ERDS)~~	~~ERDS is a continuous direct near real-time electronic data link between the licensee's onsite computer system and the NRC Operations Center that provides for the automated transmission of a limited data set of selected parameters.~~
Environmental Monitoring	The use of radiological instruments or sample collecting devices to measure and assess background radiation levels and/or the extent and magnitude of radiological contamination in the environment around the plant. This may be done in various stages such as pre-operational, operational, emergency, and post operational.
Essential Personnel	Essential personnel are those needed to achieve the goals and tasks as deemed necessary by the Station Emergency Director.
Evacuation	The urgent removal of people from an area to avoid or reduce high level, short-term exposure usually from the plume or from deposited activity.
Exclusion Area	An Exclusion Area is an area specified for the purpose of reactor site evaluation in accordance with 10 CFR 100. It is an area of such size that an individual located at any point on its boundary for two hours immediately following onset of the postulated release would not receive a total radiation dose to the whole body in excess of 25 rem or a total radiation dose of 300 rem to the thyroid from iodine exposure.
Exercise	An event that tests the integrated capability of a major portion of the basic elements existing within emergency preparedness plans and organizations.

Exercise Cycle	A six-year period of time until the performance of the first evaluated Hostile Action based exercise. Following performance of the Hostile Action based exercise, the cycle duration time will change from a six-year period to an eight-year period.
~~Fission Product Barrier~~	~~The fuel cladding, reactor coolant system boundary, or the containment boundary.~~
Hazardous Material	A substance or material which has been determined by the United States Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated in 49 CFR 172.
Health Physics Network (HPN) Line	In the event of a Site Area Emergency, the NRC HPN line will be activated by the NRC Operations center in White Flint, Maryland. This phone is part of a network that includes the NRC Regional Office and the NRC Operations Headquarters in White Flint, Maryland. This system is dedicated to the transmittal of radiological information by plant personnel to NRC Operations Center and the Regional office. HPN phones are located in the TSC and EOF.
~~High Radiation Sampling System~~	~~Post-accident sampling capability to obtain and perform radioisotopic and chemical analyses of reactor coolant and containment atmosphere samples.~~
Imminent	Mitigation actions have been ineffective and trended information indicates that the event or condition will occur within 2 hours.
Ingestion Exposure Pathway	The potential pathway of radioactive materials to the public through consumption of radiologically contaminated water and foods such as milk or fresh vegetables. Around a nuclear power plant this is usually described in connection with the 50-mile radius Emergency Planning Zone (50 mile EPZ).
Initiating Condition	A predetermined UNIT condition where either the potential exists for a radiological emergency or such an emergency has occurred.
Integrated Drill	A drill conducted in the year that a Biennial Exercise is not scheduled including at least two Emergency Response Facilities in order to demonstrate at least two of the functions of management and control of emergency response, accident assessment, protective action decision-making, or plant system repair and corrective action.

Intermediate Phase	The period beginning after the source and releases have been brought under control and reliable environmental measurements are available for use as a basis for decisions on additional protective actions.
Joint Information Center	A Corporate Emergency Facility activated by Exelon and staffed by Exelon, state, and Federal Public Information personnel. This facility serves as the single point of contact for the media and public to obtain information about an emergency.
Late Phase	The period beginning when recovery action designed to reduce radiation levels in the environment to acceptable levels for unrestricted use are commenced and ending when all recovery actions have been completed. This period may extend from months to years (also referred to as the recovery phase).
Local Evacuation	The evacuation of personnel from a particular area, such as a room or building.
Low Population Zone (LPZ)	As defined in 10 CFR 100.3, the area immediately surrounding the exclusion area which contains residents, the total number and density of which are such that there is a reasonable probability that appropriate protective measures could be taken in their behalf in the event of a serious accident.
Main Control Room	The operations center of a nuclear power plant from which the plant can be monitored and controlled.
Monthly	Frequency of occurrence equal to once per calendar month.
Non-Essential Site Personnel	Those personnel not needed for the continuing existence or functioning of the ERO. They are personnel not required to fill certain positions in the ERO. Identification of non-essential personnel is circumstance-oriented as determined by the Station Emergency Director.

Notification, Public	Public notification means to communicate instructions on the nature of an incident that prompted the public alerting/warning and on protective or precautionary actions that should be taken by the recipients of the alert. A state and local government process for providing information promptly to the public over radio and TV at the time of activating the alerting (warning) signal (sirens). Initial notifications of the public might include instructions to stay inside, close windows, and doors, and listen to radio and TV for further instructions. Commercial broadcast messages are the primary means for advising the general public of the conditions of any nuclear accident. (See Emergency Alert System.)
Off-Site	The area around a nuclear generating station that lies outside the station's "site boundary".
Offsite Dose Calculation Manual (ODCM)	The ODCM presents a discussion of the following: 1. The ways in which nuclear power stations can affect their environment radiologically 2. The regulations which limit radiological effluents from the nuclear power stations; and 3. The methodology used by the nuclear power stations to assess radiological impact on the environment and compliance with regulations.
On-Site	The area around a nuclear generating station that lies within the station's "site boundary".
Owner Controlled Area	Company owned property on which a Nuclear Station is located and may include Exelon Nuclear leased lands adjacent to that Nuclear Station.
Operations Support Center (OSC)	An emergency response facility at the Plant to which support personnel report and stand by for deployment in an emergency situation.
Personnel Monitoring	The determination of the degree of radioactive contamination on individuals, using standard survey meters, and/or the determination of dosage received by means of dosimetry devices.
Plume Exposure Pathway	The potential pathway of radioactive materials to the public through: (a) whole body external exposure from the plume and from deposited materials, and (b) inhalation of radioactive materials.

Population-at-Risk	Those persons for whom protective actions are being or would be taken. In the 10-mile EPZ the population-at-risk consists of resident population, transient population, special facility population, and industrial population.
Potassium Iodide	(Symbol KI) A chemical compound that readily enters the thyroid gland when ingested. If taken in a sufficient quantity prior to exposure to radioactive iodine, it can prevent the thyroid from absorbing any of the potentially harmful radioactive iodine-131.
Potential	Mitigation actions are not effective and trended information indicates that the parameters are outside desirable bands and not stable or improving.
Projected Dose	That calculated dose that some individuals in the population group may receive if no protective actions are implemented. Projected doses are calculated to establish an upper limit boundary.
Protected Area	That onsite area within the security boundary as defined in each station's Security Plan.
Protection Factor (PF)	The relation between the amount of radiation that would be received by a completely unprotected person compared to the amount that would be received by a protected person such as a person in a shielded area. $PF = \text{Shielded dose rate} / \text{Unshielded dose rate}$.
Protective Action	Those emergency measures taken for the purpose of preventing or minimizing radiological exposures to affected population groups.
Protective Action Guide (PAG)	Projected radiological dose values to individuals in the general population that warrant protective action. Protective Action Guides are criteria used to determine if the general population needs protective action regarding projected radiological doses, or from actual committed (measured) dose values.
Protective Action Recommendations (PARs)	Recommended actions to the States for the protection of the offsite public from whole body external gamma radiation, and inhalation and ingestion of radioactive materials. Access control and other recommendations concerning the safeguards of affected food chain processes may be issued by the States as PARs.

Public Alerting/Warning	The process of signaling the public, as with sirens, to turn on their TV's or radios and listen for information or instructions broadcast by state or local government authorities on the Emergency Alert System (EAS).
~~Puff Release~~	~~A controlled containment vent that will be terminated prior to exceeding 60 minutes in duration and is less than the limit as defined in the Station Annex.~~
Quarterly	Frequency of occurrence equal to once in each of the following four periods: January 1 through March 31; April 1 through June 30; July 1 through September 30; October 1 through December 31.
Recovery	The process of reducing radiation exposure rates and concentrations of radioactive material in the environment to levels acceptable for unconditional occupancy or use.
Release	A ' <i>Release in Progress</i> ' is defined as <u>ANY</u> radioactive release that is a result of, or caused by, the emergency event.
Restricted Area	Any area, access to which is controlled by Exelon for purposes of protection of individuals from exposure to radiation and radioactive materials.
Restricted Area Boundary	For classification and dose projection purposes, the boundary is a 400-meter (1/4-mile) radius around the plant. The actual boundary is specified in the ODCM.
Safety Analysis Report, Updated Final (UFSAR)	The UFSAR is a comprehensive report that a utility is required to submit to the NRC as a prerequisite and as part of the application for an operating license for a nuclear power plant. The multi-volume report contains detailed information on the plant's design and operation, with emphasis on safety-related matters.
Semi-Annual	Frequency of occurrence equal to once in each of the following periods: January 1 through June 30; July 1 through December 31.
Shall, Should, and May	The word "shall" is used to denote a requirement, the word "should" to denote a recommendation and the word "may" to denote permission, neither a requirement nor a recommendation.
Shielding	Any material or barrier that attenuates (stops or reduces the intensity of) radiation.

Site Boundary	Three Mile Island's Site Boundary is described in detail in the ODCM.
Site Evacuation	The evacuation of non-essential personnel from the plant site.
Source Term	Radioisotope inventory ~~of the reactor core~~ , or amount of radioisotope released to the environment, often as a function of time.
Technical Support Center (TSC)	A center outside of the Control Room in which information is supplied on the status of the plant to those individuals who are knowledgeable or responsible for engineering and management support of ~~reactor~~ -site operations in the event of an emergency, and to those persons who are responsible for management of the on-site emergency response.
Threshold Value	Measurable, observable detailed conditions which must be satisfied to determine an EAL applicability.
Thyroid Blocking Agent	An agent which when properly administered to an individual will result in sufficient accumulation of stable iodine in the thyroid to prevent significant uptake of radioiodine. Potassium Iodide is such an agent.
Total Effective Dose Equivalent (TEDE)	The sum of the deep dose equivalent (for external exposure) and the committed effective dose equivalent (for internal exposure) and 4 days of deposition exposure.
Unrestricted Area	Any area to which access is not controlled by the licensee for protecting individuals from exposure to radiation and radioactive materials, and any area used for residential quarters.
Vital Areas	Areas within the station security fence which contain vital equipment. Examples include Control Rooms, ~~Containment~~ /Reactor Buildings, Turbine Buildings and Electrical Equipment Rooms.
Vital Equipment	Any equipment, system, device or material, the failure, destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation. Equipment or systems which would be required to function to protect public health and safety following such failure, destruction, or release are also considered to be vital.
Weekly	Frequency occurrence equal to once per calendar week: Monday through Sunday.

Any abbreviation followed by a lower case 's' denotes the plural form of the term.

ACRONYMS

ac	alternating current
ALARA	as low as reasonably achievable
ANI	American Nuclear Insurers
ANS.....	Alert and Notification System
ANSI.....	American National Standards Institute
ARM	Area Radiation Monitor
ASLB.....	Atomic Safety Licensing Board
CB	citizen band
cc.....	cubic centimeter
CDE.....	Committed Dose Equivalent
CEOC.....	County Emergency Operation Center
CFR.....	Code of Federal Regulations
CHRMS	Containment High Range Monitoring System
CHRRMS	Containment High Range Radiation Monitoring System
cm2	square centimeter
CNO	Chief Nuclear Officer
cpm	count per minute
CR	Control Room
CRO	Control Room Operator
CRT.....	Cathode Ray Tube
Cs.....	Cesium
dc	direct current
DEP.....	Drill and Exercise Performance
DEQ	Department of Environmental Quality
DER/BRP	Dept of Environmental Resources, Bureau of Radiation Protection (PA)

DFO.....	Disaster Field Office
DGI.....	Digital Graphics Incorporated
DHFS	Department of Health and Family Services
DLR	Dosimeter of Legal Record
DOE	U. S. Department of Energy
DOT.....	U. S. Department of Transportation
DPH.....	Department of Public Health
dpm	disintegration per minute
EAL	Emergency Action Level
EAS.....	Emergency Alerting System
EMA	Emergency Management Agency
ENC.....	Emergency News Center
ENS.....	Emergency Notification System (NRC)
EOC	Emergency Operations (or Operating) Center
EOF.....	Emergency Operations Facility
EOP.....	Emergency Operating Procedure
EPA.....	U. S. Environmental Protection Agency
EPDS	Emergency Preparedness Data System
EPZ	Emergency Planning Zone
ERF	Emergency Response Facility
ESF	Engineered Safety Feature
FEMA	Federal Emergency Management Agency
FRMAC	Federal Radiological Monitoring and Assessment Center
FRMAP.....	Federal Radiological Monitoring and Assessment Plan
FRPCC.....	Federal Radiological Preparedness Coordinating Committee
FSAR.....	Final Safety Analysis Report

Ge	Germanium
GET	General Employee Training
GM	Geiger Mueller (radiation detection tube)
HEPA	high efficiency particulate air
HPN.....	Health Physics Network (NRC)
hr	hour
I	Iodine
~~INPO~~	~~Institute of Nuclear Power Operations~~
JIC.....	Joint Information Center
LGEOC.....	Local Government Emergency Operations Center
Li	Lithium
~~LOCA~~	~~Loss of Coolant Accident~~
LPZ.....	Low Population Zone
MAELU.....	Mutual Atomic Energy Liability Underwriters
MCP	Municipal Command Post
mR.....	milliroentgen
NARS	Nuclear Accident Reporting System
NCRP	National Council on Radiation Protection
NOP	Nuclear Organization Procedure
NRC	U. S. Nuclear Regulatory Commission
NRF.....	National Response Framework
NRR	Nuclear Reactor Regulation (NRC)
NWS.....	National Weather Service
NSRAC.....	Nuclear Safety Review and Audit Committee
OSC	Operations Support Center
PAG.....	Protective Action Guide

PANS	Prompt Alert and Notification System
PAR.....	Protective Action Recommendation
PASS.....	Post Accident Sampling System
PEMA.....	Pennsylvania Emergency Management Agency
QATR	Quality Assurance Topical Report
R.....	roentgen
RAA.....	Remote Assembly Area (off-site)
RAC.....	Regional Advisory Committee (FEMA)
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
RMS	Radiation Monitoring System
~~SAMG~~	~~Severe Accident Management Guidelines~~
SCBA	Self Contained Breathing Apparatus
SEOC	State Emergency Operations Center
SFCP.....	State Forward Command Post
SGTS	Standby Gas Treatment System
SPCC	Spill Prevention Control and Countermeasure
SPDS	Safety Parameter Display System
Sr.....	Strontium
SRC.....	State Radiological Coordinator
SSC.....	State Staging Center
~~STA~~	~~Shift Technical Advisor~~
TDD.....	Telecommunications Device for the Deaf
TEDE.....	Total Effective Dose Equivalent
TSC.....	Technical Support Center
μCi.....	microcurie

UFSAR Updated Final Safety Analysis Report

Attachment 3

**Three Mile Island Nuclear Station
Proposed Revision to Site Radiological Emergency Plan**

Exhibit B

Three Mile Island Radiological Emergency Plan Annex
(Procedure EP-AA-1009)
(Marked-up Version)

EXELON NUCLEAR

RADIOLOGICAL EMERGENCY PLAN ANNEX

FOR THREE MILE ISLAND (TMI) STATION

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REVISION HISTORY

<u>REVISION</u>	<u>REVISION DATE</u>
0	February 2002
1	May 2003
2	September 2003
3	December 2004
4	November 2005
5	January 2006
6	February 2006
7	June 2006
8	May 2007
9	July 2007
10	January 2008
11	June 2008
12	August 2008
13	March 2009
14	March 2010
15	May 2010
17	March 2011
18	July 2012
19	November 2012
20	December 2012
21	June 2013
22	June 2014
23	December 2014
24	March 2015
25	July 2017
26	August 2017
27	November 2017
28	March 2018
X	TBD

Section 1: Introduction

As required in the conditions set forth by the Nuclear Regulatory Commission (NRC) for the operating license for the Three Mile Island Station, the management of Exelon recognizes its responsibility and authority to operate and maintain the nuclear power stations in such a manner as to provide for the safety of the general public.

The Three Mile Island Station Emergency Preparedness Program consists of EP-TM-1000, Three Mile Island (TMI) Station Radiological Emergency Plan, EP-AA-1009, Radiological Emergency Annex for Three Mile Island (TMI) Station, Exelon emergency plan implementing procedures, and associated program administrative procedures. The Three Mile Island (TMI) Station Radiological Emergency Plan outlines the basis for response actions that would be implemented in an emergency.

This document serves as the Three Mile Island (TMI) Station Annex and contains information and guidance that is unique to the station. This includes on-shift staffing and augmentation, and facility geography. The Station Annex is subject to the same review and audit requirements as the Three Mile Island Radiological Emergency Plan.

1.1 Facility Description

TMI Unit 1 is operated by Exelon Nuclear. The TMI Unit #1 ~~is~~ ~~was~~ an 870 Mwe, pressurized water-type, nuclear steam supply system supplied by Babcock & Wilcox Company. ~~The unit is permanently defueled.~~

TMI Unit 2 is owned by First Energy Corporation. The TMI Unit 2 reactor was damaged during an accident in 1979 and is currently defueled and the plant maintained in long-term monitored storage. Monitoring of this facility is performed by Exelon Nuclear through a service agreement with First Energy Corporation. The arrangement of the major TMI-1 and TMI-2 facilities is shown in Figures TMI 1-1 and TMI 1-2.

TMI Station is located in an area of low population density about 12 miles southeast of Harrisburg, Pennsylvania.

The area is in Londonderry Township, Dauphin County, about 2.5 miles from the southern tip of Dauphin County, where the county is coterminous with York and Lancaster Counties.

The TMI site is part of an 814-acre tract consisting of TMI and several adjacent islands, which were purchased by a predecessor. The island, which is situated about 900 feet from the east bank and approximately one mile from the west bank of the Susquehanna River, is elongated parallel to the flow of the river with its longest axis oriented approximately due north and south. The north and south ends of the island have access bridges, which connect the island to State Highway Route 441. The north access bridge is used daily. Route 441 is a two-lane highway, which runs parallel to TMI on the east bank of the Susquehanna River and is more than 2,000 feet from the TMI reactors at the closest point.

A Norfolk Southern one-track line runs adjacent and parallel to Route 441 on the east bank of the river. On the west bank of the river, there is a multi-track Norfolk Southern line at the river's edge about 1.25 miles west of the site and a black top, two lane road that runs parallel to it. There is a one-track railroad spur across the bridge on the north end of the island, which is used for site-related activities. A general area map showing the relative location of the TMI sites is shown as Figure TMI 1-2.

In addition to the information listed above, specific details concerning the TMI Site are included in the Updated Final Safety Analysis Report (UFSAR).

1.2 Emergency Planning Zones

TMI has taken into consideration the information and data presented above, guidance provided by the Environmental Protection Agency (EPA), NRC and the Pennsylvania Emergency Management Agency (PEMA), as well as other important factors such as organizational capabilities, availability of emergency facilities and equipment, and the methods for implementing the Emergency Plan in defining the Emergency Planning Zones (EPZs) for the TMI. As a result, an EPZ having an approximate radial distance of 10 miles from the site has been defined as the "Plume Exposure Pathway". An EPZ having a radial distance of 50 miles from the site has been defined as the "Ingestion Exposure Pathway".

Figure TMI 1-4 illustrates the respective boundaries of for the Plume Exposure and Ingestion Pathways.

1.2.1 Owner Controlled Area, Exclusion Area and Low Population Zone

1. The Owner Controlled Area for the TMI site includes all areas within the perimeter security fence. The minimum distance to the owner controlled area boundary is measured from the centerline of the Fuel Handling Building to the western shoreline of the island, which is approximately 675 feet.
2. The Exclusion Area for the TMI site is a 2,000 foot radius that includes a portion of TMI, the river surface around it, and a portion of Shelly Island. The minimum distance of 2,000 feet occurs on the shore of the mainland in a due easterly direction. The TMI-1 licensee retains complete authority to determine and maintain sufficient control of all activities including the authority to exclude or remove personnel and property for all land areas within the exclusion area. A map showing the exclusion area boundary is included as Figure TMI 1-3. For the purposes of Emergency Planning, the exclusion area boundary and the site boundary are considered the same.
3. The Low Population Zone (LPZ) has a minimum distance of 2 miles to its outer boundary. The area of the Low Population Zone is also shown in Figure TMI 1-3.

1.2.2 Population and Population Distribution

As previously discussed, LPZ has been defined with a minimum distance of 2 miles from its outer boundary to the TMI site. The nearest major population center is Harrisburg, Pennsylvania which is located approximately 12 miles northwest of TMI. This distance satisfies the requirements of 10 CFR 100 with respect to population center distance. The population of residential areas, typical enrollment in various schools, and the hospital patient capacity in the surrounding area can be found in the TMI Evacuation Time Estimate (ETE) Study.

Within the two-mile LPZ, there are no schools. There are several recreational areas (Falmouth Fish Commission Access Area, Tri-County Boat Club and Canal Lock Boat Launch Area). There is some seasonal shift in population within a 5-mile radius of TMI since there are over 100 summer cabins on the islands within the area. Additional transients participate in boating activities in the vicinity of TMI.

1.2.3 Local Industrial and Military Facilities

The TMI site is currently surrounded by farmlands within a 10-mile radius. Lands are used for dairy cattle, tobacco, poultry, vegetables, fruit, corn, wheat, and other products. A summary of land use for the risk counties is provided in Table 1 and the FSAR. The Susquehanna River is used for sport fishing and boating but is not used for commercial fishing. Manufacturing industries in the region produce clothing, wood products, shoes, electrical wiring devices, steel products, packed meat and other food. These activities, within a 10-mile radius of the site, are confined chiefly to the communities of Harrisburg, New Cumberland, Steelton, and Middletown. A listing of typical industries within 10 miles of TMI can be found in the site Updated Final Safety Analysis Report (UFSAR). There are gas and oil transmission lines located at a minimum distance of approximately 2 miles from TMI.

Approximately 3 miles downstream from the site is the York Haven hydro-electric project. The York Haven Station is operated on a "run-of-the-river" basis, and its power output is dependent primarily upon the water available. The reservoir is used for peaking operation during periods of low river flow. Brunner Island Station, a large steam-electric generating plant owned by the Pennsylvania Power & Light Company is located on the Susquehanna River approximately one mile downstream from the York Haven project. This station uses water from the river on a "once-through" basis for cooling water. Three other hydroelectric generating stations are also located downstream from TMI, with each project having a dam and reservoir on the Susquehanna River. The three stations are Safe Harbor, Holtwood, and Conowingo Hydroelectric Projects, located approximately 25, 31, and 47 miles south of TMI, respectively. There is also a coal fired, steam electric plant at Holtwood, and the Muddy Run Pumped Storage Project is associated with Conowingo Station. The Peach Bottom Atomic Power Station (PBAPS) is located along the west bank of the Susquehanna River, about 41 miles downstream of TMI, just north of the Maryland-Pennsylvania border and is the only nuclear plant within a 50-mile radius of TMI.

There are two airports within 10 miles of the TMI sites. Harrisburg International Airport (formerly Olmsted Air Force Base) is located on the east bank of the Susquehanna River approximately 2.5 miles northwest of the site. The Capital City Airport is located approximately 8 miles west-northwest of TMI. The vital areas of the TMI sites are designed to withstand a hypothetical aircraft accident.

Norfolk Southern lines are located on both sides of the Susquehanna River, the closest being the east bank, approximately 2,000 feet from the TMI Reactor Buildings. Routine traffic in liquified petroleum gas was identified on the railroad line, which passes along the east shore of the river. Analyses indicate that any missiles generated by this traffic would be less damaging than the postulated aircraft strike against which the plant is protected and that flammable gases would dissipate before reaching the TMI Nuclear Units.

The closest military installation to the site is the Air National Guard facility at Harrisburg International Airport. There are no military firing ranges or missile facilities within a 10-mile radius of TMI. Other military facilities, however, are Army and Navy depots located at New Cumberland and Mechanicsburg, Pennsylvania, respectively.

1.3 Participating Governmental Agencies

The Radiological Emergency Plan (REP) Annex for the Three Mile Island Station Emergency Plan was developed in coordination with the Commonwealth of Pennsylvania Emergency plan. In addition, specific State requirements for reporting of emergencies, providing information and data, and recommending protective actions, have been integrated directly into the Emergency Plan Implementing Procedures. In considering the Plume Exposure Pathway, there are also county plans that have been considered in the development of the REP Annex for TMI Station. The State Plan designates PEMA as the lead state agency for radiological emergency response planning and the state agency through which the Governor will exercise coordination and control during emergency. The State Plan is an integrated document setting forth the resources and responsibilities of all relevant state agencies. Significant plans from the State Departments of Agriculture, Environmental Resources, Bureau of Radiation Protection (BRP) are included in the State Plan.

1.3.1 Federal Agencies

A summary of Federal response agencies, responsibilities and activities, as described under the National Response Framework (NRF), is contained in the Three Mile Island (TMI) Station Radiological Emergency Plan. Specifics related to support for TMI Station are listed below.

1. **The Department of the Army (local Ordinance Detachment)** will provide an Explosive Ordinance Disposal capability in response to requests for assistance in the event of a bomb threat.
2. **The Federal Aviation Administration (FAA)** will ensure air traffic is diverted in the event of an emergency situation with a potential for radioactive release.
3. **National Weather Service (NWS)** will provide backup meteorological information upon request.

1.3.2 State Agencies

The planning for, and response to a radiological emergency at the TMI site is the joint responsibility of TMI and the state/county/local governmental agencies. TMI is responsible for onsite emergency response. In order to fulfill this responsibility, TMI relies on various offsite agencies, both governmental and private, to provide assistance beyond that available onsite. The Commonwealth of Pennsylvania, through the various state, county and local agencies, is responsible for offsite emergency response. In order to fulfill this responsibility, the state relies on TMI to provide necessary information on plant status and radiation releases. Recognizing the joint nature of their responsibilities, TMI and the relevant governmental agencies have coordinated their emergency planning and have provided for adequate and redundant communication systems to coordinate their response during an emergency event.

1. Pennsylvania Emergency Management Agency (PEMA)

PEMA is responsible to coordinate emergency services in the Commonwealth of Pennsylvania. Should a radiological emergency occur at the TMI site that requires the implementation of state, county, and local government radiological emergency response plans, the state agency through which the Governor will exercise coordination/control will be PEMA. However, as in all emergencies, the Governor retains directional control. The State role is further defined in the State Disaster Operations Plan - Annex E.

PEMA exercises authority over all non-licensee offsite organizations, who are a part of the emergency response team in the TMI Plume Exposure and Ingestion Pathways. This authority is based on the provisions of Section 7313 of the State of Pennsylvania Emergency Management Services Code 35 PA (C.S.A. Sections 7101-7707) also referred to as Pamphlet Law 1332. By law, PEMA is authorized to:

- Provide emergency direction and control of Commonwealth of Pennsylvania and local disaster emergency operations.
- Accept aid and coordinate assistance provided by Federal Agencies under provisions of the Federal Disaster Relief Act of 1974.

2. Department of Environmental Protection

The Department of Environmental Protection (DEP), under the administration and technical direction of the Secretary, is responsible for gathering and evaluating technical information and for supplying such information and technical advice and recommendations to PEMA and the Pennsylvania Emergency Management Council.

Within the DEP, the Bureau of Radiation Protection (BRP) has been delegated responsibility for radiological emergencies. Specific responsibilities assigned to the DEP/BRP that are appropriate to radiological emergencies are defined in the State Plan. To provide for emergency response capability, the BRP has made provisions for 24 hour per day interface with PEMA.

1.3.3 County Agencies

Pamphlet Law 1332 states that, "each political subdivision of this Commonwealth is directed and authorized to establish a local emergency management organization in accordance with the plan and program of the PEMA. Each local organization shall have responsibility for emergency management, response and recovery within the territorial limits of the political subdivision within which it is organized and, in addition, shall conduct such services outside of its jurisdictional limits as may be required under this part." Therefore, each County and Local Emergency Management Coordinator in the State is responsible for establishing an emergency management organization within their respective jurisdiction, developing plans and preparing for emergency operations.

With respect to the TMI Plume Exposure Pathway, Dauphin, York, Cumberland, Lancaster and Lebanon Counties have prepared Radiological Emergency Response Plans that are coordinated with both the State's Disaster Operations Plan and the REP Annex for TMI Station. Local government plans are either included directly within the respective County plan or are maintained as separate, but coordinated documents. The county Emergency Operations Centers (EOCs) are the location of the County dispatcher for police, fire, rescue and emergency medical services and is manned by dispatchers on a 24-hour basis. In the event of a PEMA communications breakdown, Dauphin County will act as the primary Communicator with PEMA, BRP, and the other four risk counties.

1.3.4 Additional Support Agencies

The nature of an emergency may require augmenting the emergency organizations with assistance from additional personnel and organizations. In order to ensure that support from local law enforcement, fire departments, hospitals, ambulance services and other organizations will be available on relatively short notice, agreements have been established with personnel and organizations. Agreements from offsite individuals, groups and agencies that support Three Mile Island may take one of the following forms:

- Contracts
- Letters of Agreement
- Memoranda of Understanding
- Formal Emergency Plans

Refer to Appendix 2 for a listing of offsite support organizations.

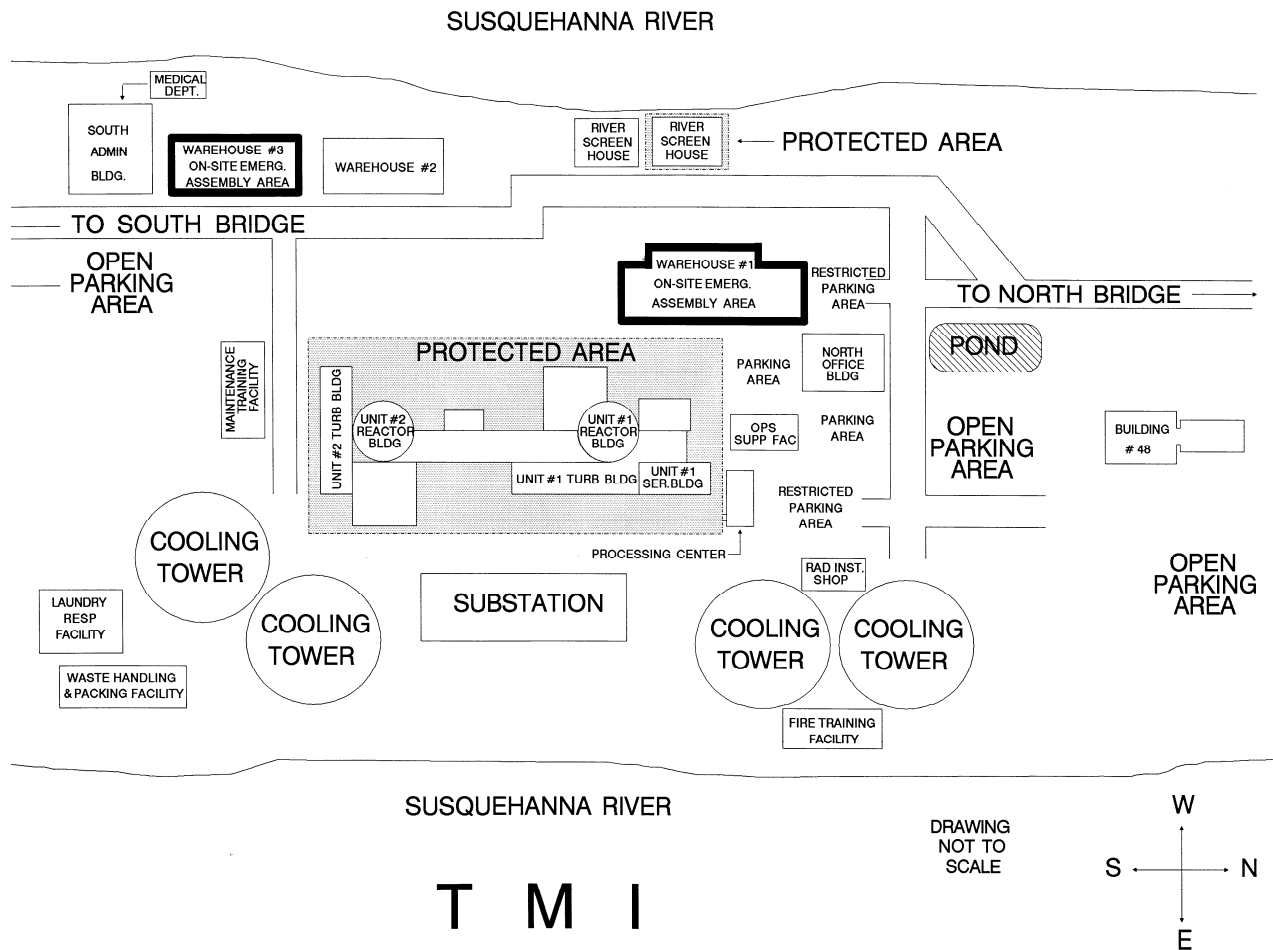
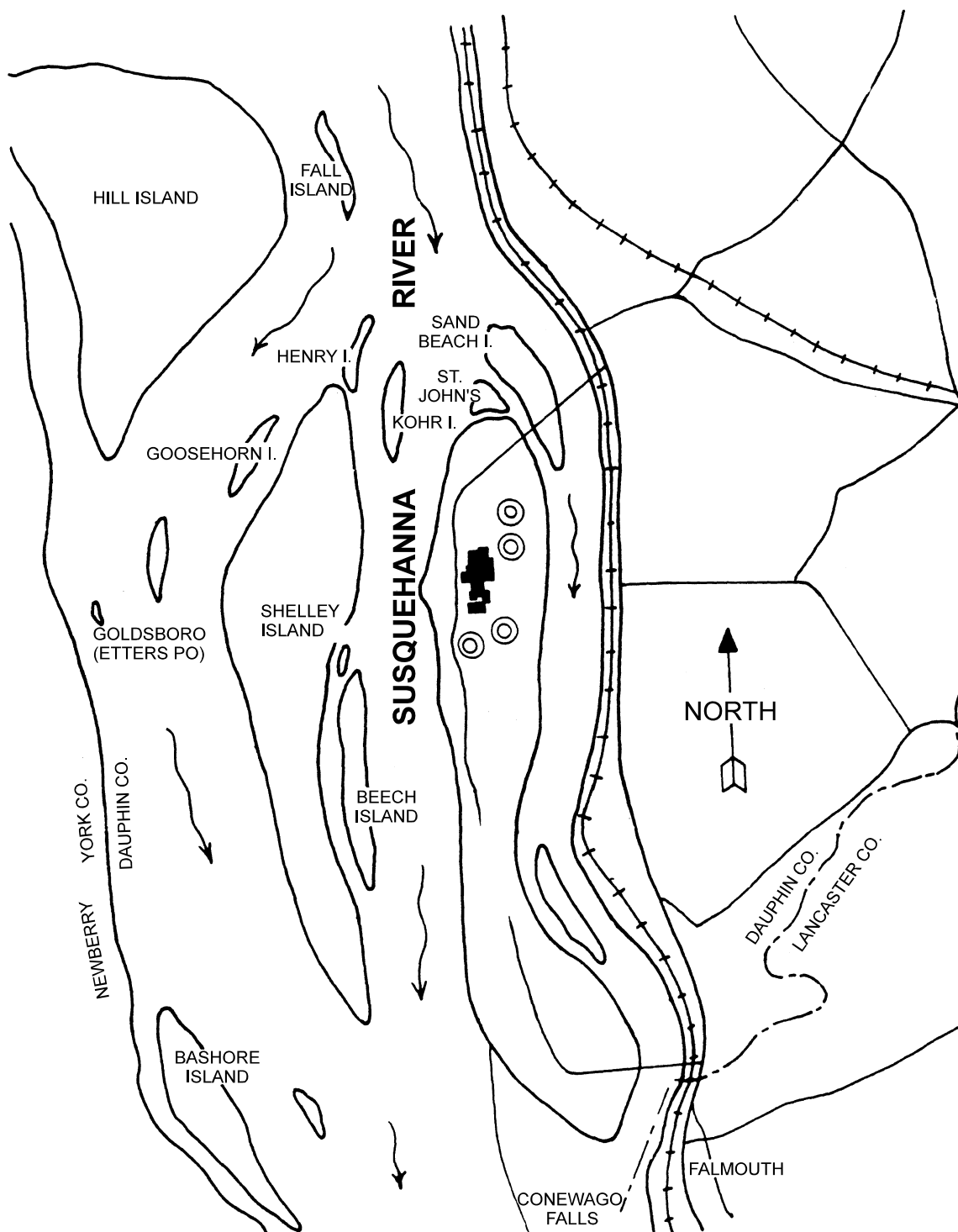
FIGURE TMI 1-1: TMI Site Arrangement

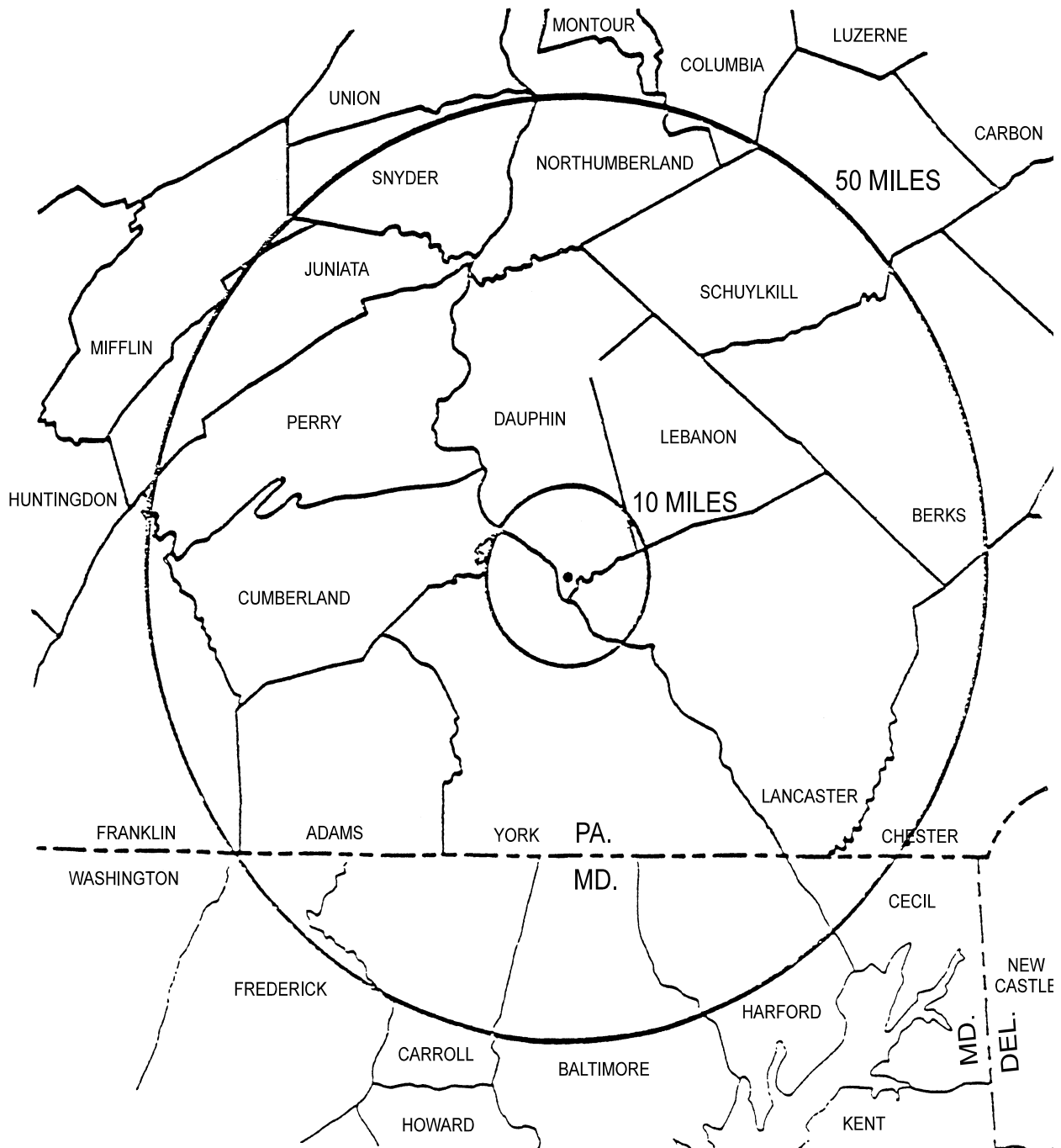
FIGURE TMI 1-2: Relative Location of the TMI Site

This map illustrates the TMI Site and its surrounding area, including various boundaries and geographical features. Key elements include:

- 5 Mile Radius:** Indicated by a large circle centered on the TMI Site.
- Low Population Zone Boundary (Radius 2 Miles):** Indicated by a smaller circle centered on the TMI Site.
- Exclusion Area Boundary (Radius 2000 Feet):** Indicated by a small circle centered on the TMI Site.
- Geographical Features:** The map shows the TMS River, York Haven, and various towns including Middletown, Roubidoux, and Newville.
- Highways:** Major roads are labeled with numbers such as 76, 230, 341, 283, 392, 83, 382, 295, 262, 181, and 241.
- Scale:** A scale bar at the bottom indicates distances in miles (0 to 1 mile).
- North Arrow:** A north arrow is located in the bottom right corner.

FIGURE TMI 1-4: Plume Exposure and Ingestion Pathway EPZs

Risk Counties: Cumberland, Dauphin, Lancaster, Lebanon, York



Section 2: Organizational Control of Emergencies

This section describes the Emergency Response Organization (ERO) and its key positions. It outlines the staffing requirements which provide initial emergency response actions and provisions for timely augmentation of on-shift personnel when required. It also describes interfaces among Exelon Nuclear emergency response personnel and specifies the offsite support available to respond to the nuclear ~~generating~~ stations.

2.1 Shift Organization Staffing

Initial response to any emergency is by the normal plant organization present at the site. This organization includes positions that are onsite 24 hours per day and is described in Section B.1 of the Three Mile Island (TMI) Station Radiological Emergency Plan. The Normal Shift Organization will be augmented, in an emergency, with designated/additional Emergency Response Organization (ERO) personnel within 60 minutes following the declaration of an Alert or higher emergency classification as specified under EP-TM-1000, Table TMI B-1. ERO activation is described in Section H.4 of the Three Mile Island (TMI) Station Radiological Emergency Plan.

EP-TM-1000, Table TMI B-1 outlines ERO positions required to meet minimum staffing and full augmentation of the on-shift complement at an Alert or higher classification, and the major tasks assigned to each position. Responsibilities for each position are described in Section B.5 of the Three Mile Island (TMI) Station Radiological Emergency Plan.

2.1.1 Shift Dose Assessment

A designated, qualified shift member will perform the on-shift dose assessment function. This **Shift Dose Assessor** will provide radiological assessment input and radiological support to the Control Room. This position reports to and advises the Shift Manager (Shift Emergency Director) in regard to in-plant, onsite and offsite radiological conditions.

He/She performs dose projections, coordinates the initial mobilization of field monitoring teams, if a release is underway, and assists in formulating dose-based Protective Action Recommendations (PARs).

2.1.2 Shift Communicator

This position is responsible to make notifications to offsite agencies until properly relieved by the TSC or EOF, and assisting in the activation of the ERO callout system as directed.

2.1.3 ~~Shift Technical Advisor (STA) / Incident Assessor~~

~~The responsibilities of the STA are delineated on OP-AA-101-111, "Roles and Responsibilities of On-Shift Personnel." If the STA is the Shift Manager or Unit Supervisor, then another Senior Reactor Operator (SRO) shall assist as Incident Assessor during unexpected conditions and transients.~~

2.1.4 Repair Team Lead

A designated person on-shift shall fill the **Repair Team Lead** position until relieved by the ERO OSC Director. This position reports to the Shift Emergency Director until control of the OSC is transferred to the TSC.

2.1.5 The following functions will be performed by trained members of the normal shift complement:

1. **Firefighting**

Specific personnel on each shift (Site Fire Brigade) are trained in firefighting to ensure such capability will be available 24 hours per day. The Fire Brigade, under the direction of the Fire Brigade Team Leader or another individual designated by him, shall respond to all confirmed fire alarms or as directed by the Control Room and report to the location of the fire with assigned equipment. During the normal work week, additional qualified firefighting personnel will, as necessary, be obtained from the normal on-site organization. Assistance will be requested from local fire departments through the county dispatcher / appropriate local dispatch system.

2. **First Aid and Search and Rescue**

Medical emergencies and search and rescue operations will be the responsibility of the First Aid and Search and Rescue Teams. Specific personnel on each shift are trained in first aid techniques to ensure such assistance will be available 24 hours per day. Assistance will be requested from outside medical support personnel or organizations as deemed necessary.

2.2 **Emergency Response Organization (ERO) Staffing**

In the Three Mile Island (TMI) Station Radiological Emergency Plan, EP-TM-1000, Figures TMI B-1a through TMI B-1d illustrate the overall emergency response organization. EP-TM-1000, Table TMI B-1, Minimum Staffing Requirements, provides a comparison against the Exelon Nuclear Radiological Emergency Plan of 60-minute and ~~full augmentation~~90-minute commitments. An illustration of the overall Exelon ERO command structure is provided in [Figures TMI B-1a - d in EP-TM-1000, Figure TMI B-1a.](#)

~~2.2.1 Emergency Onsite Organization (Figure TMI B-1b)~~

~~No changes in augmentation positions or staffing levels for the Technical Support Center (TSC) and Operations Support Center (OSC) from that specified in the Three Mile Island (TMI) Station Radiological Emergency Plan.~~

~~2.2.2 Emergency Offsite Organization (Figure TMI B-1c)~~

~~Based on existing interface and staffing agreements, representatives from~~

~~the Commonwealth of Pennsylvania will respond to the Emergency Operations Facility (EOF), allowing direct face-to-face communications. As such, the State Environs Communicator position, listed under the Three Mile Island (TMI) Station Radiological Emergency Plan, is not staffed at the Coatesville EOF. Rather the EOF Environmental Coordinator will interface directly with State representatives present in the EOF.~~

~~An Operations Assistant has been added to augment EOF staffing and provide TMI specific Operations knowledge in support of the existing Technical Support Manager and Operations Advisor positions.~~

~~2.2.3 Emergency Public Information Organization (Figure TMI B-1d)~~

~~No changes in augmentation positions or staffing levels for the Joint Information Center (JIC)) and Emergency News Center (ENC) from that specified in the Three Mile Island (TMI) Station Radiological Emergency Plan.~~

2.3 Emergency Response Organization (ERO) Training

Training is conducted in accordance with Section O.5 of the Three Mile Island (TMI) Station Radiological Emergency Plan per TQ-AA-113, "ERO Training and Qualification." Retraining is performed on an annual basis, which is defined as once per calendar year not to exceed 18 months between training sessions.

TMI will offer training for hospital personnel, and ambulance and rescue, police and fire departments required to support implementation of the TMI Emergency Plan. This training shall include the procedures for notification, basic radiation protection and their expected roles. For those support organizations that must enter the site, training shall also include site access procedures and the identity (by title) of the individual in the site emergency organization who will control the organization's support activities.

2.4 Non-Exelon Nuclear Support Groups

The nature of an emergency may require augmenting the emergency organizations with assistance from additional personnel and organizations. In order to ensure that support from local law enforcement, fire departments, hospitals, ambulance services and other organizations will be available on relatively short notice, agreements have been established with personnel and organizations. Agreements from offsite individuals, groups and agencies that support TMI may take one of the following forms:

- Contracts
- Letters of Agreement
- Memoranda of Understanding
- Formal Emergency Plans

Refer to Appendix 2 for a listing of these support organizations.

2.4.1 Miscellaneous Organizations

- Other utilities
- ~~Institute for Nuclear Power Operations (INPO)~~
- American Nuclear Insurers (ANI)
- AREVA
- Aviation services

2.4.2 Norfolk Southern Railroad Company

The Norfolk Southern Railway track crosses the access to the facility, and impeding site access could impact the implementation of time sensitive emergency actions. These emergency actions include augmentation of the Emergency Response Organization, use of off-site assistance, and evacuation of non-essential personnel. Therefore, a Memorandum Of Understanding (MOU) has been established with Norfolk Southern Railway Company. The purpose of the MOU is to ensure that stopped or disabled train traffic does not impede access to the island across the North Bridge for the duration of the emergency. This will provide reasonable assurances that there is sufficient time to allow implementation of emergency actions at TMI in the event of a declared emergency. The MOU with Norfolk Southern Railway Company will be reviewed every five years.

Section 3: Classification of Emergencies

**The TMI Emergency Action Levels and supporting information
are re-located in EP-AA-1009, Addendum 3.**

Section 4: Emergency Measures

4.1 Notification of the Emergency Organization

Notifications for the Three Mile Island Station are in accordance with Section E.3 of the Three Mile Island (TMI) Station Radiological Emergency Plan. For initial notification/escalation of Unusual Event, Alert and Site Area and General Emergencies, TMI will notify the following offsite agencies within 15 minutes of event declaration:

- Pennsylvania Emergency Management Agency (PEMA)
- Dauphin County
- York County
- Lancaster County
- Lebanon County
- Cumberland County

Within one hour of event classification, but immediately following notification of PEMA and the risk counties, TMI will also notify the Nuclear Regulatory Commission.

Upon notification of an emergency at Three Mile Island Station, the Pennsylvania Bureau of Radiation Protection (BRP) will contact the appropriate station to verify that an emergency exists and to obtain technical information, and then makes recommendations to PEMA regarding protective actions for the public. The BRP Support Plan For Fixed Nuclear Facility Incidents utilizes the Protective Action Guidelines in the U.S. Environmental Protection Agency (EPA) 400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents".

In addition to the initial notification and verification, communication channels will be maintained between the facility and offsite emergency response organizations to allow for any further dissemination and update of information concerning the emergency.

The Commonwealth of Pennsylvania, in accordance with the State Radiological Emergency Response Plan, will coordinate offsite emergency support from Federal, State and local agencies

Exelon Nuclear will provide follow-up information to the BRP or other off-site authorities. The follow-up information will keep these authorities apprised of existing or potential radiological releases, meteorological conditions, projected doses and contamination levels, licensee actions, recommend protective actions and other information pertinent to the authorities' responsibilities. The information may be provided over open communication paths or in person to BRP personnel.

4.1.1 Offsite Agency Response

1. **Risk Counties (Within Plume Exposure Pathway)**

- The dispatcher at the Risk Counties shall notify their County Emergency Management Coordinator or his designated alternate.
- The County Office of Emergency Management shall notify county and municipal personnel, as appropriate.
- Dauphin County - Act as central communications agency in the event of a PEMA/TMI communication breakdown.

2. **Pennsylvania Emergency Management Agency (PEMA)**

Upon receiving notification of an emergency from the site, the PEMA Duty Officer Agency shall immediately notify the State Bureau of Radiation Protection (BRP).

PEMA will also notify the following personnel, organizations, and agencies as appropriate in accordance with their standard operating procedures:

- a. Other affected County Emergency Management Agencies
- c. Other affected states
- d. Selected State agencies
- e. Selected Federal agencies

3. **Department of Environmental Protection / Bureau of Radiation Protection (DEP/BRP)**

The Incident Manager, who receives the notification from PEMA, shall:

- Contact the licensee to: (1) Verify actual origin of the emergency message; (2) Determine the classification of the emergency; and (3) Obtain and assess information and data pertaining to the emergency.
- Initiate activation of the BRP emergency response organization, if appropriate.
- Advise the PEMA Duty Officer or Operations Officer of the BRP initial assessment of the emergency.
- Notify selected Federal agencies, as appropriate.

4.2 Assessment Actions

The effluent radiation monitoring system provides indications of gross releases of gaseous and liquid radioactivity. By applying calibration factors, meteorological data, or river flow, the gross indications are used to calculate approximate release rates in $\mu\text{Ci/sec}$ and dose rates at specific distances along the release pathways. Particulate and iodine analysis depends on collecting installed filter papers and charcoal cartridges for analysis in the counting room. Similar calculation procedures are applied to approximate release rates and dose rates due to iodine.

Detectors are strategically located throughout the plant. These detectors indicate and alarm locally and in the Control Room. They serve the purpose of indicating current dose rates in those areas and are used for local evacuation action levels and re-entry operations.

Certain plant operating systems contain radiation monitors. These systems are described in the TMI UFSAR.

Portable monitoring instruments and sampling equipment consist of such items that are utilized and maintained on-site for normal day-to-day plant operations and are thus available for emergency use.

Refer to Section 5.2 of the REP Annex for TMI Station for a listing of assessment resources.

4.2.1 Radiological Assessment and Offsite Monitoring

For the emergency assessment of gaseous releases, refer to the description of the dose projection model contained in Part II, Section I.4 of the Three Mile Island (TMI) Station Radiological Emergency Plan.

For liquid releases, the radionuclide concentration at any downstream location is determined by taking liquid effluent concentrations and applying the effluent flow rate and volumetric flow rate of the receiving water. Downstream users will be notified to curtail intake if the projected concentration is above the level specified in the procedures.

4.2.2 Source Term Determination

Should the effluent radiation monitors be off-scale or otherwise inoperable, assessment of releases and off-site exposure would be made using the ~~containment monitor readings~~, point of release grab samples, and pathway samples.

~~A detailed core damage assessment methodology has been established under Section 6.0 of the TMI Technical Support Center Calculation Guides. The process used is based on measured physical and chemical parameters that occur in the plant when the core is damaged. Three (3) methods have been developed under Section 6.0 of the TMI Technical Support Center Calculation Guides (per TDR 431) to determine core damage estimates:~~

- ~~1. In-core thermocouple temperature correlations to fuel conditions;~~
- ~~2. Radiation monitor and hydrogen production correlations based on fuel and plant system conditions; and~~
- ~~3. Chemical measurement correlations based on radionuclide inventory released into reactor coolant during core damage.~~

~~Throughout each emergency situation, continuing assessment will occur. Assessment actions at Three Mile Island Station may include an evaluation of plant conditions; in-plant, onsite, and initial offsite radiological measurements; and initial estimates of offsite doses. Core damage information is used to refine dose assessments and confirm or extend initial protective action recommendations. Three Mile Island Station utilizes WCAP-14696-A, Revision 1, (1999) as the basis for this methodology of post-accident core damage assessment. This methodology utilizes real-time plant indications. In addition, Three Mile Island Station may use samples of plant fluids and atmospheres as inputs to the CDAM (Core Damage Assessment Methodology) program for core damage estimation.~~

4.3 Protective Actions for the Offsite Public

The responsibility for actions to protect persons in offsite areas rests with the State and is described in detail in the State Emergency Plan and implemented in conjunction with the county emergency plans.

DEP/BRP is the specific agency responsible for evaluating information from the TMI staff and all other sources and recommending to PEMA that protective actions be taken. The BRP has sheltering and evacuation as protective action options. The most appropriate protective action for a particular situation will depend on the magnitude of the release, duration of the release, wind speed, wind direction, time of day and transportation constraints. In the case of a General Emergency, circumstances may indicate the immediate need to initiate some precautionary protective action. This judgment is the responsibility of the BRP and should be based on an evaluation of the current plant conditions, dose projections relative to the PAG's and expected subsequent plant operations/evaluations.

Off-site it is the responsibility of the State Department of Agriculture, in conjunction with the Department of Environmental Protection, to issue guidance and coordinate actions to control contaminated agricultural products.

The means to warn or advise involved persons is a responsibility of the risk county. The risk county, in coordination with the State, is also responsible for the preparation and dissemination of information material for the general public on protective actions including necessary information (evacuation routes, maps, etc.) for the implementation of protective measures in the Plume Exposure Pathway.

The population within the 10-Mile Emergency Planning Zone (Plume Exposure Pathway) will be provided, on a periodic basis, information describing the methods by which they will be notified of an emergency and specific instructions that should be followed upon receipt of such notification.

4.3.1 Alert and Notification System (ANS) Sirens

ANS is comprised of sirens distributed throughout the 5 risk counties that fall within the TMI Plume Exposure EPZ. A complete description of the siren system to include siren ratings, siren coverage, and location is located with the Emergency Preparedness Department. The TMI Station ANS meets the guidelines of Appendix 3 to NUREG-0654-FEMA-Rep. 1 Rev-1 Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants as identified in each site specific siren acoustical evaluation.

After State authorities have been notified, the ANS (sirens) and Emergency Alert System (EAS) are the primary means of notifying the population within the Plume Exposure Pathway (10-Mile EPZ). The risk counties can activate the sirens located in their portion of the county that falls within the same Plume Exposure Pathway EPZ. The signal is a three to five minute steady tone that alerts the population to tune their radios or television to the local EAS station. PEMA and risk counties will then broadcast emergency information messages advising the population of what actions should be taken, if any.

Backup means of notification is achieved through Route Alerting, which is contained within the State and respective counties' Radiological Emergency Response Plans and procedures. The means consists of utilizing vehicles with public address (PA) systems in the event the primary method of alerting and notification is unavailable. The backup method has the capability to alert and notify the public within the plume exposure pathway EPZ within a reasonable time, but does not need to meet the 15-minute design objective for the primary prompt public alert and notification system.

4.3.2 Evacuation Time Estimates

The ETE study used population data from the 2010 census which includes parts of five Pennsylvania counties: Cumberland, Dauphin, Lancaster, Lebanon and York. The evacuation times are based on a detailed consideration of the EPZ roadway network and population distribution. The ETE Study, contained in EP-AA-1009 Addendum 2, Evacuation Time Estimates for the Three Mile Island Plume Exposure Pathway Emergency

Planning Zone, presents evacuation times for daytime and nighttime scenarios under various weather conditions for the evacuation of various areas around the TMI Station, once a decision has been made to evacuate.

4.3.3 Potassium Iodide (KI)

The Department of Health, Commonwealth of Pennsylvania, is responsible for providing advice to PEMA on the planning for the use, stockpiling and distribution of Potassium Iodide (KI) or other thyroid blocking agents and such other radiological health materials as may be required for the protection of the general public. Their decision shall also be based on U.S. FDA guidance.

Based on the criteria established under the Appendix E of the Commonwealth of Pennsylvania Operations Plan, the TMI Station will recommend to government officials that the general public be notified to take KI at a General Emergency classification in those areas where an evacuation or shelter has been recommended. This notification will be approved by the Emergency Director in Command and Control of PAR decision-making and off-site notifications, and performed as part of the State / local notifications described under Sections II.B.4 and II.E.3 of the Three Mile Island (TMI) Station Radiological Emergency Plan.

4.3.4 Public Information

a. Publications

Public information on protective actions is prepared and disseminated annually to provide clear instructions to the population-at-risk. Exelon Nuclear assists PEMA and risk counties in the preparation and distribution of their respective public information.

Pamphlets outlining public education response actions are readily available for transients in the 10-Mile EPZ. In addition, emergency information is provided to the operators of other recreational areas in the 10-Mile EPZ, as defined by the Commonwealth of Pennsylvania and risk counties.

These public information publications (including telephone book emergency information, etc.) instruct the public to go indoors and turn on their radios when they hear the ANS sirens operating. These publications identify the local radio stations to which the public should tune in for information related to the emergency. Additional materials (e.g., such as rumor control numbers, evacuation routes, information on inadvertent siren soundings, etc.) may also be included in these publications based on agreements with responsible State and risk county agencies.

b. News Media Education

Information kits are available to news media personnel. These kits include information on a variety of nuclear power plant related subjects.

4.3.5 Protective Action Recommendations (PARs) for the General Public

To aid the Emergency Response Organization during a developing emergency situation, EP-AA-111, "Emergency Classification and Protective Action Recommendations" has been developed based on Section J.10.m of the Three Mile Island (TMI) Station Radiological Emergency Plan.

4.4 Protective Actions for Onsite Personnel

During an emergency, personnel may be required to temporarily relocate to prevent or minimize exposure to radiation and radioactive materials. The following subsections discuss the policies applying to sheltering, evacuation and personnel accountability during emergencies at the TMI site.

At the time an emergency is declared, an announcement is made on the site public *address* system to all personnel within the Owner Controlled area. The announcement will include the classifications of the event, a brief description of the event, and actions taken by site personnel. Shift personnel will proceed to their emergency assignments.

The TMI-1 licensee retains complete authority to determine and maintain sufficient control of all activities including the authority to exclude or remove personnel and property for land areas within the exclusion area and contamination will, thereby, be controlled. In addition, there are no areas for producing agricultural products within the exclusion area. In-plant contamination control will be in accordance with approved Radiological Controls procedures.

The primary protective measures for onsite personnel during an emergency is prompt evacuation from areas, which are affected by significant radiation, contamination, airborne radioactivity or other personnel hazards. All persons onsite at the time an emergency is declared shall be notified by means of the plant page supplemented by designated personnel providing notification in areas that the page does not cover.

4.4.1 Emergency Personnel Exposure

Exposure to personnel remaining onsite as or in support of ERO activities will be monitored. This may be accomplished through continuous monitoring for habitability at designated emergency and support facilities. Dosimetry will be issued to personnel leaving or working outside a monitored facility, and will be available to ERO personnel located inside a site emergency facility, in the event of a radiological release or elevated plant radiation levels, as applicable, per approved procedures. Additional provisions have been made for dosimetry issue at the site entrance gates or other locations, if required. Dosimetry will be periodically read and recorded in accordance with approved RP procedures.

Emergency personnel, including those involved in the removal of injured persons, undertaking corrective actions, performing assessment or personnel decontamination, and providing first aid and support to ambulance services will have their radiation dose controlled in accordance with approved procedures and normal RP practices.

When offsite emergency personnel are called to respond to TMI, station RP support is provided to support these activities, which include the monitoring and control of radiation exposure and evaluation of radiological hazards.

4.4.2 Radiological Monitoring and Decontamination

Personnel and equipment decontamination will be initially accomplished at the Radiation Protection Access Control Point where specialized equipment and supplies are available. Procedures are written with specific details for decontamination. For personnel within the Protected Area, emergency situations, which require decontamination will be handled in accordance with these procedures.

All personnel leaving a Radiological Controlled Area (RCA) will be monitored for contamination. Any individual found to have contamination levels in excess of thresholds established in Radiation Protection (RP) procedures will be considered contaminated.

Personnel found to be contaminated will undergo decontamination by radiological controls personnel (or other designated personnel as specified in Radiation Protection Procedures). Measures will be taken to prevent the spread of contamination. Such measures may include isolating affected areas, placing contaminated personnel in "clean" protective clothing before moving, and decontaminating affected personnel, their clothing and equipment prior to release, in accordance with applicable station Radiation Protection Procedures.

In the event that a release of contaminants has occurred or is occurring, in-plant potable water systems will be secured to prevent possible contamination. If food and water supplies are brought in for emergency personnel who remain on-site these supplies will be packaged in sealed containers and will be monitored by Radiation Protection personnel (using standard Rad Con practices and procedures) prior to use or consumption and on a normal routine basis. Any food or water supplies discovered as contaminated will immediately be disposed of as waste and will not be used.

Upon receipt of information that the emergency has entered recovery phase, in-plant facilities and areas will be surveyed, sampled, and cleared for use, or controlled as necessary, in accordance with applicable Radiation Protection practices.

4.4.3 Personnel Accountability / Site Evacuation

Upon declaration of a Site Area Emergency, General Emergency and/or at the discretion of the Station Emergency Director, essential personnel within the Protected Area will be accounted for at the Control Room, TSC and OSC unless other factors (e.g., security events) advise against it.

Non-essential personnel will be directed to proceed to their vehicles directly and to evacuate to designated Remote Assembly Areas or dismissed to their homes. The Station Emergency Director based on the prevailing radiological conditions will determine evacuation routes. This evacuation will be accomplished using private vehicles.

In support of these operations, a sweep of buildings, trailers, and other areas of the Owner Controlled area will commence to ensure that all persons have assembled and/or evacuated the site.

Refer to Section J of the Three Mile Island (TMI) Station Radiological Emergency Plan for specific requirements for the initiation and completion of personnel accountability and the evacuation of non-essential personnel from the site. Search and rescue operations will be implemented to locate any missing persons.

4.4.4 Monitoring of Evacuees

At the Remote Assembly Areas (Figures TMI 4-1 and TMI 4-2), personnel and vehicles from the TMI site will be monitored for radioactive contamination, if necessary. Individuals found to be contaminated will be decontaminated in accordance with applicable Radiation Protection Procedures. Vehicles found to be contaminated will be impounded until they can be decontaminated. Inclement weather will not affect the direction of the traffic flow, but may increase evacuation times.

If anyone is found to be contaminated, showers, sinks and decontaminating supplies are available in close proximity to the plant. Equipment for decontamination personnel will be stored in Emergency Supply Lockers. Portable survey instruments are available and routinely calibrated for use in decontamination operations. All skin contamination problems will be treated using accepted Radiation Protection practices.

For contaminated personnel inside the Protected Area, the preferred decontamination facility will be those onsite at the TMI Site Laboratory, if accessible; otherwise offsite facilities will be used.

The registering and monitoring of the general public evacuating from the Plume Exposure Pathway EPZ, as described in Section II.J.12 of the Three Mile Island (TMI) Station Radiological Emergency Plan, will occur at designated facilities per the respective State and County Radiological Emergency Response Plans.

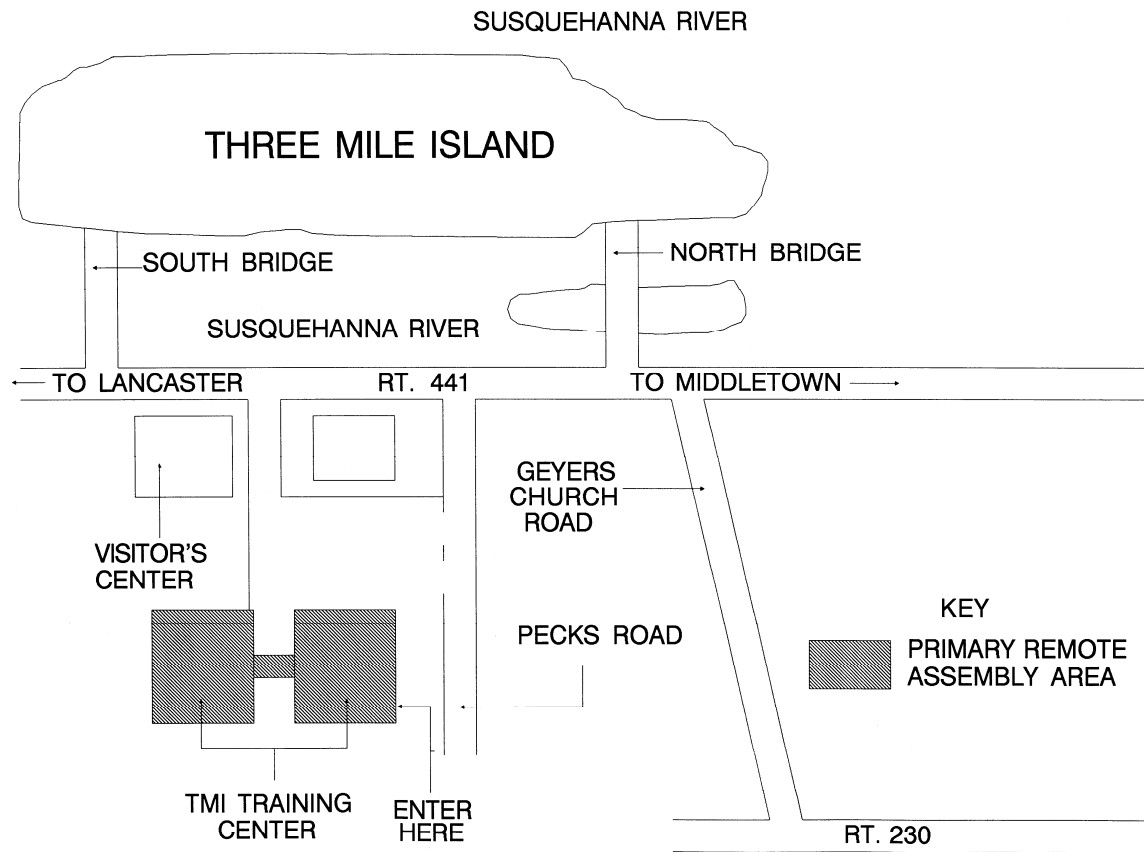
4.5—Severe Accident Management

~~Accident management consists of those actions taken during the course of an accident, by the Emergency Response Organization (ERO), specifically: plant operations, technical support, and plant management staff in order to:~~

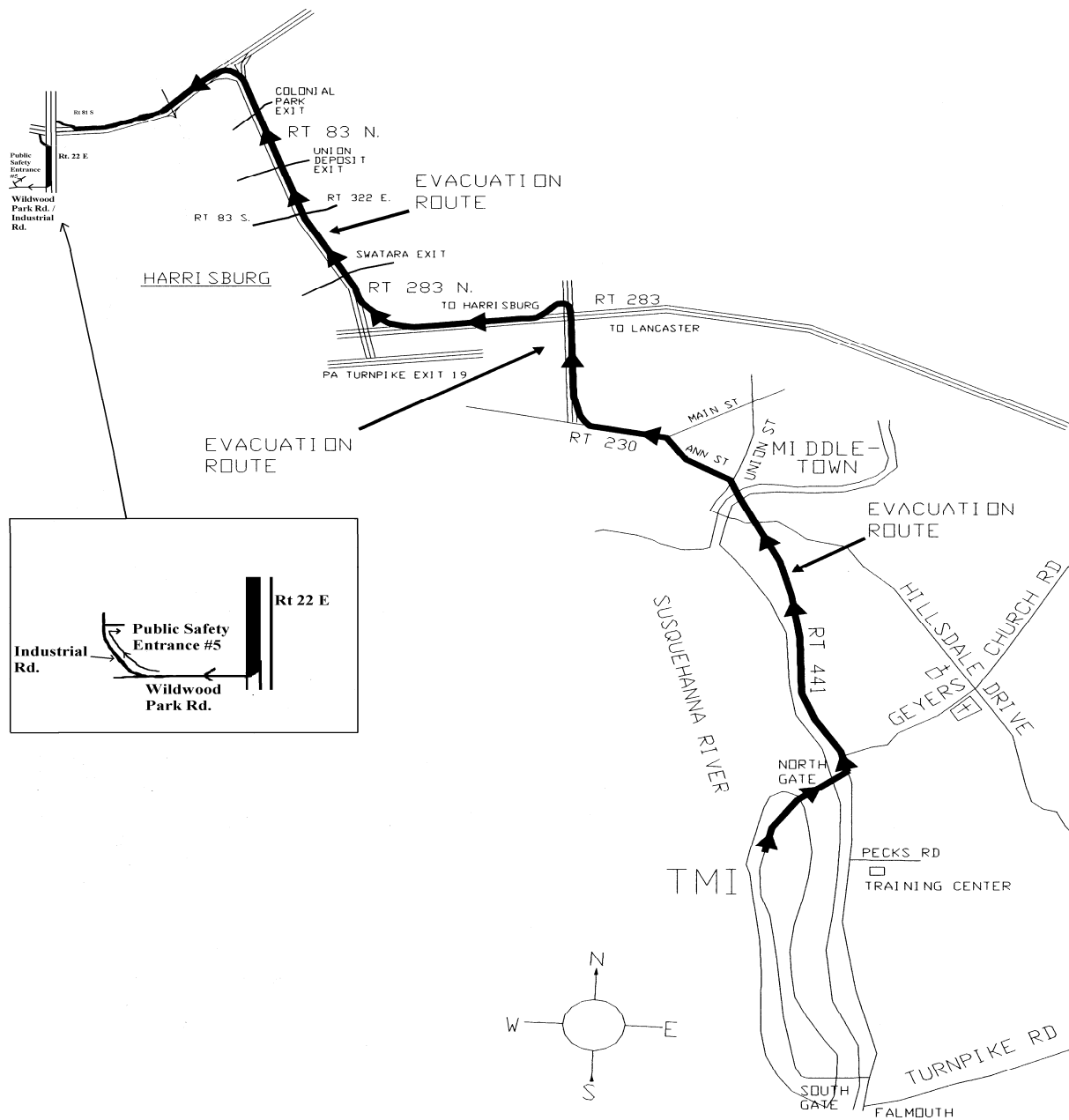
- ~~• Prevent the accident from progressing to core damage;~~
- ~~• Terminate core damage once it begins;~~
- ~~• Maintain the capability of the containment as long as possible; and~~
- ~~• Minimize on-site and off-site releases and their effects.~~

~~The later three actions constitute a subset of accident management, referred to as Severe Accident Management (SAM) or severe accident mitigation. The Severe Accident Management Plan Procedures (SAMPs) provide sound technical strategies for maximizing the effectiveness of equipment and personnel in preventing, mitigating and terminating severe accidents.~~

~~Implementation of SAMPs is a collaborative effort between the Shift Manager and the Station Emergency Director in the TSC (once activated). The Station Emergency Director maintains ultimate responsibility for direction of mitigating strategies. Designated TSC personnel are also trained to assist in evaluating plant conditions using the SAM Technical Support Guidelines (TSG).~~

FIGURE TMI 4-1: Remote Assembly Area – TMI Training Center

DRAWING NOT TO SCALE

FIGURE TMI 4-2: Remote Assembly Area – Harrisburg Area Community College

Section 5: Emergency Facilities and Equipment

5.1 Emergency Response Facilities

5.1.1 Station Control Room

The Control Room and Shift Manager's Office are designed to be habitable under accident conditions. These areas are located in seismically-rated structures and have adequate shielding to permit safe occupation for extended periods of time. The TMI-1 Control Room ventilation system has redundant fans and chillers and is provided with radiation and smoke detectors with appropriate alarms and interlocks. Provisions have been made for air from the control rooms to be recirculated through high efficiency particulate air (HEPA) and activated charcoal filters. Fresh air is drawn through underground ventilation tunnels which have been provided with protection against combustible vapors, incipient explosions or fires. The tunnels are Seismic Class I rated and also designed for a hypothetical aircraft incident.

Emergency lighting, power, ventilation system, and shielding walls enable operators to remain in the Control Room to ensure that the reactor will be maintained in a safe condition. In addition, the operators will be able to evaluate plant conditions and relay pertinent information to appropriate onsite and offsite personnel, organizations, and agencies during emergencies. To ensure the operations shift and other personnel assembled at the location can remain self-sufficient, emergency equipment and supplies will be stored in or near the Control Room. The location, type and quantity of emergency equipment and supplies available is specified in the Emergency Plan Administrative Procedures.

5.1.2 Technical Support Center (TSC)

The TSC is located on the 1st floor of the Operations Support Facility (OSF), which is outside but adjacent to the Protected Area. The TSC meets the requirements of NUREG-0696 for size and habitability, including a filtered HVAC system that can be isolated in the event of a radiological accident.

A backup electrical power source is designated in the event of a loss of the normal power supply. UPS capability is provided to designated electrical outlets to ensure that a transient loss of power does not occur to significant communications, dose projection, and data acquisition and display systems.

A room is provided for use by NRC response team members and the Resident Inspector during a declared emergency event. This conference room provides a workspace and telephone communications for a minimum of five (5) people.

Records and drawings, which describe conditions and layout of structures, systems, and components, are contained in filing cabinets inside the TSC.

5.1.3 Operational Support Center (OSC)

The OSC is located on the 305' Elevation of the Service Building. The OSC conforms to the requirements of Section H.1.c of the Three Mile Island (TMI) Station Radiological Emergency Plan.

The OSC serves as a muster area for shift personnel and as a location to organize and dispatch emergency response teams (i.e., onsite radiological monitoring, fire brigade, rescue operations, damage control, and maintenance). Emergency equipment and supplies, including portable radios, portable lighting, protective clothing, and respirators, are maintained in emergency lockers located or adjacent to in the OSC. Additional emergency equipment, such as gamma and air monitoring equipment can be made promptly available to the OSC if needed.

In the event the OSC is not habitable, personnel report to backup facilities that can be designated based upon specific event conditions.

5.1.4 Emergency Operations Facility (EOF)

The dedicated Emergency Operations Facility (EOF) is located on Exelon property at 175 North Caln Road, Coatesville, PA, approximately 50 miles from the TMI Site. The EOF supports Peach Bottom and Limerick Generating Station, in addition to TMI Station, under the Three Mile Island (TMI) Station Radiological Emergency Plan.

Primary staffing of the Coatesville facility will be from the Exelon Nuclear Mid-Atlantic Region Office located in Kennett Square, PA, which is approximately 18 miles drive (11 miles straight line distance) from the Coatesville facility.

Plant Process Computer (PPC) subsets of screens were developed for EOF use. These screens provide for the display of basic Safety Parameter Display System (SPDS) points and designated EP data screens. The Coatesville EOF is equipped with multiple projectors in the Main Room for the display of these data screens. The designated EP screens, feed off a database from the TMI Station PPC, are available via an Ethernet LAN connection. A backup LAN has also been established via a Token Ring LAN from the TMI Site through the PECO Main Office Building in Philadelphia, PA. to ensure continued access to plant operational, radiological and meteorological data.

The Coatesville facility has a designated diesel generator and uninterruptible power supply (UPS) as a backup power source in the event of a loss of normal power.

The EOF equipment includes:

- Supplies and equipment for EOF personnel, and
- Sanitary and food preparation facilities.

Separate offices are provided for Exelon Nuclear, NRC, State representatives and other emergency personnel.

5.1.5 Joint Information Center (JIC)

The Joint Information Center (JIC) is the facility in which media personnel gather to receive information related to the emergency event. The JIC is co-located with the EOF at 175 North Caln Road, Coatesville, Pennsylvania.

5.1.6 Processing Center

The Processing Center will be continuously manned by Site Security personnel, unless otherwise directed based on the Nuclear Station Security Plan. Emergency equipment and supplies will be maintained in this facility to support such tasks as reentry efforts, performing onsite and offsite radiation surveys or collecting airborne samples. The exact location and the type and quantity of emergency equipment and supplies are specified under the applicable Emergency Plan Administrative Procedures.

5.1.7 Alternative Facility

The Alternative Facility maintains the capability for staging the TSC/OSC emergency response organization personnel in the event of a hostile action. This alternative facility has the capability for communications with the emergency operations facility, control room, and plant security and the capability for engineering assessment activities, including damage control team planning and preparation. Consistent with NRC EPFAQ No. 2013-005, the EOF will satisfy the offsite notification responsibilities for the Alternative Facility. The Alternative Facility is located at the Londonderry Fire Hall 2655 Foxianna Road, Middletown, Pennsylvania. **(CM-1, ref. AR 1362747.44)**

5.2 **Assessment Resources**

5.2.1 Radiation Monitoring System

The onsite Radiation Monitoring System contributes to personnel protection, equipment monitoring, data gathering, and accident assessment by measuring and recording radiation levels and concentrations of radioactive material at selected locations within the plant. The Radiation Monitoring System alarms and initiates required emergency actions when radiation levels or radionuclide concentrations exceed predetermined levels. Area, liquid, and atmospheric monitoring subsystems are required to perform these functions. Specific details regarding radiation monitoring and effluent monitoring systems can be found in system design descriptions (SDDs), site Final Safety Analysis Reports, and the TMI Radiation Monitoring Setpoint Procedures.

The data from these subsystems are displayed by readout in the Control

Room. Selected channels are recorded by recorders and/or the plant process computer, which are also located in the Control Room.

In general the radiation monitoring equipment is designed in accordance with the following:

- Each monitoring station has adjustable alarm, alert, and power supply failure alarms.
- Solid-state circuitry is used except for primary detectors.
- Most AC operated radiation monitoring equipment, except for the pump assemblies, is provided with power from the battery-backed, inverter-fed vital power supply bus.
- Each radiation monitor is capable of being checked periodically with solenoid actuated check sources.
- A pulse generator or solid sources are used for electrically checking each monitor or subsystem.
- The modules are designed so that an alarm and/or indication is initiated when failure occurs anywhere in the channel.

1. Area Radiation Monitoring

The TMI-1 area radiation monitoring subsystem is comprised of channels, which utilize an ion chamber detector housed in a weatherproof container.

2. ~~DELETED~~Containment Radiation Monitors

~~Post accident radiation levels in containment are monitored by two channels of fully qualified high range area monitors. These monitors are ion chamber detectors and are designed to withstand a LOCA. Readout modules are located for these detectors on the radiation monitoring panel in the control room.~~

~~The set points on this monitor could be used to indicate to the operator that the Emergency Action Levels (EALs) were reached under the Fission Product Barrier loss matrix provided in Section 3.~~

3. Atmospheric Radiation Monitoring

Each installed atmospheric monitor (except the condenser off-gas, ESF ventilation exhaust and waste gas monitor) is comprised of a particulate measuring channel, iodine measuring channel, and a gaseous measuring channel. The atmospheric radiation monitor subsystem is comprised of monitors with fixed and movable particulate filters, and fixed radioiodine filters. Representative samples are obtained by means of a sampling head placed in a ventilation duct.

Movable airborne monitors are typically used in the spent fuel handling area during refueling operations and in the radiochemical laboratory during laboratory sample preparation operations. These monitors are

supplemented with various other portable radiation monitors. Each monitor contains three channels for particulate, iodine, and gaseous monitoring, respectively.

4. Liquid Radiation Monitoring

The liquid radiation monitoring subsystem is comprised of monitors, each of which has a sampler, detector, and Control Room ratemeter module (exceptions are the IWTS/IWFS discharge monitor, waste treatment system discharge monitor and the turbine building sump pump). The monitors provide visual indications in the Control Room. ~~The TMI-1 Primary Coolant Letdown monitor also contains a high range channel.~~

~~5. Post Accident Sampling System (PASS)~~

~~Liquid Reactor Coolant System Post Accident Sample System (PASS) samples may be taken from the pressurizer and decay heat and reactor coolant letdown systems. Liquid samples may be analyzed for isotopic concentration, boron concentration, chloride concentration and dissolved gases.~~

~~The Containment Atmosphere Post Accident Sampling System (CATPASS) is used to sampling isotopic concentration in the containment atmosphere. MAP-5 microprocessor stations sample iodine and particulates in condenser off-gas and auxiliary and reactor building exhausts.~~

5.2.2 Fire Protection Devices

TMI has implemented and maintains a Fire Protection Program as described in the updated FSAR for TMI-1. The Fire Protection Program is controlled under TMI-1 license conditions.

5.2.3 Seismic Monitoring

Strong motion recording systems at TMI measures ground motion and structural vibrating response caused by an earthquake occurring in the vicinity of the site. Cassette magnetic tape recorders located in the TMI-1 Control Room receive information supplied by triaxial sensor units which are firmly mounted on the Reactor Building. One triaxial sensor unit is attached immediately outside of the containment wall at the base of the Reactor Building. A second triaxial sensor is situated along the same Reactor Building axis, but is attached to the Reactor Building ring girder. The triaxial sensor units begin to supply seismic data to the magnetic tape recorder after a signal is sent to the sensors by a remote starter unit. A remote starter unit attached to the base of the Reactor Building provides a signal for its systems sensor units when the starter unit detects a ground acceleration greater than a present threshold level. The remote starter also actuates an annunciator in the TMI-1 control room labeled "Threshold Seismic Condition". If the ground acceleration exceeds the horizontal or vertical setpoints, a seismic trigger, also mounted on the base of the

Reactor Building, will cause a TMI-1 annunciator labeled "Operating Basis Earthquake" to actuate.

The time history of a ground motion and resulting vibrating response can be displayed by using magnetic tape cassettes containing the recorded data, and the magnetic tape playback system in the control rooms. The magnetic tape playback system produces visual playouts of selected magnetically recorded data. This is accomplished with a strip chart recorder built into the playback system. A visual playout allows quick analysis of the earthquake. The magnetic tapes are available also for detailed analysis.

Peak reading accelerographs are anchored to Class 1 selected items. These accelerographs will produce a permanent record of the peak amplitude of the low frequency accelerations caused by seismic disturbances.

This record is in the form of magnetic erasure clips which must be developed using the magnetic developer kit. After developing, these clips can be examined to verify seismic response which had been determined analytically.

5.2.4 Onsite Meteorological Monitors

At TMI, basic meteorological information is obtained from a weather tower maintained at the north end of the Island. Real time information can be obtained from the plant process computer.

The meteorological measurement system is deployed on a 150 ft. tower. It measures wind speed and wind direction at 98 ft. and 145 ft. above grade. There are redundant speed and direction sensors at the 98 ft. level. Temperature is measured at both 31 ft. and 145 ft. from two sets of platinum sensors. Temperature difference (ΔT) is also derived and recorded. A recorder located inside the meteorological building adjacent to the weather tower records all of the above information. The Control Room also has a recorder with wind speed, direction, temperature, and differential temperature which is an indication of atmospheric stability.

Meteorological data can be remotely interrogated by telephone by NRC and Commonwealth of Pennsylvania.

Protective Measures personnel are capable of making real-time offsite estimates of atmospheric effluent transport and diffusion following an accidental airborne radioactive release from the plant. Real time meteorological information is obtained from the plant process computer. The recorder at the meteorological building located at the north end of TMI has a storage capacity of several months of data. Beyond that time period the meteorological data is permanently stored in a history file. Back-up meteorological information is available from the National Weather Service directly and indirectly from other sources that collect National Weather Service information.

5.2.5 Process Monitors

Process monitors measure appropriate parameters that are indicative of the status of various plant systems and the reactors. These parameters are displayed and recorded in the Control Room, or at local panels in the plant

5.2.6 Laboratory Facilities

The TMI laboratory facility is equipped to provide the water chemistry and radiochemical analysis support required during normal plant operations and emergencies.

5.3 **Protective Facilities and Equipment**

Personnel protective action is a function of the nature of the hazard (e.g., preparing for a hurricane is somewhat different from preparing for radiological hazards). Preplanned responses to basic hazards, high wind, flooding, earthquakes, and radiation exposure, are an integral part of the Emergency Plan. A fundamental concept in personnel protection is the evacuation of all individuals not essential to the operation, safety, security, and damage control of the plant. Obviously, some hazards can occur before significant protective action can be applied (e.g., earthquake). When the situation permits positive action, the appropriate alarms are sounded and all personnel on the site either assume assigned emergency responsibilities or prepare for evacuation.

Provision has been made for adequate supplies and protective equipment for all personnel who may be required to perform emergency activities. Specific quantities of each type are detailed in station procedures and include equipment for personnel monitoring, determining the magnitude and continuously assessing the impact of the release of radioactive material, decontaminating personnel and providing emergency first aid. Additionally, a current prescription and adequate supplies of potassium iodide are maintained for issue to personnel exposed or suspected of exposure to radioactive iodine.

Onsite locations have been designated as emergency assembly points or areas where emergency teams will be assembled in accordance with the Emergency Plan Implementing Procedures or as directed by the Station Emergency Director. Major locations for onsite protective equipment and supplies are the Control Room, access control point, and processing center. Additional information regarding protective facilities can be obtained by consulting the UFSAR.

5.3.1 First Aid and Medical Equipment

A first aid facility is designed to support a wide range of immediate care requirements ranging from simple first aid to procedures requiring a physician.

Small kits placed throughout the plant provide the most readily available first aid. These kits contain items typically needed to care for minor injuries. Typical contents can be referenced in Table TMI 5-1. The next level of first aid equipment is found at first aid stations. The medical staff can also provide Advanced Life Support and routine trauma care.

5.3.2 Damage Control Equipment

The TMI plant site is extensively equipped to conduct preventive maintenance and repairs on mechanical, structural, electrical, and instrumentation and controls equipment found in the plant.

In addition to the equipment and materials required for normal maintenance, other items are available to handle extraordinary maintenance jobs that might arise in damage control. Selection of damage control equipment inventory is based upon (a) mitigating the consequences of flooding, (b) personnel rescue, (c) checking the uncontrolled flow of fluids from process systems, and (d) elimination of electrical hazards. Typical equipment available for damage control can be found in Table TMI 5-1.

5.3.3 Radiation Protection Equipment

The TMI plant site maintains an inventory of protective clothing, respiratory equipment, survey instruments and supplies to provide adequate contamination control for all personnel expected to be onsite who might be affected in the event of an emergency.

The supplies are maintained, updated, inventoried and calibrated, as appropriate, on a regular basis in accordance with applicable procedures. Storage locations of emergency supplies can be found in the site implementing documents. Typical equipment available can be found in Table TMI 5-1.

5.3.4 Emergency Equipment Readiness

Designated emergency equipment and supplies and their storage locations will be listed in the Emergency Plan Implementing Documents. Such equipment and supplies will be maintained, inventoried, inspected and calibrated in accordance with approved site procedures. Equipment, supplies, and parts having shelf-lives will be checked and replaced as necessary.

To ensure that the necessary emergency equipment is maintained and available for use during emergency situations, readiness checklists have been developed and incorporated in Administrative Procedures. These checklists facilitate detailed inventory and calibration/functional checks of equipment contained in the emergency kits/lockers. The inventory checklists will be performed on a quarterly basis and to ensure interim readiness, all kits/lockers are sealed or locked as appropriate.

Any deficiencies found during the inventory and inspection will be either cleared immediately or documented for corrective action. A report of each inventory and inspection, including documented deficiencies, will be prepared and submitted to the Emergency Preparedness Manager. He will ensure that cognizant department heads assign personnel to correct deficiencies and shall ensure that identified deficiencies are corrected in a reasonable period of time.

5.4 First Aid and Medical Facilities

5.4.1 Decontamination and Medical Response

Emergency first aid and medical treatment will be given to injured personnel who may or may not be contaminated. Shift personnel, trained in first aid, will be available onsite on a 24-hour per day basis and will assist contaminated personnel at the scene of the accident. Provisions have been made, through agreements, to ensure contaminated and injured personnel will receive specialized medical treatment, if necessary. Local hospitals in the vicinity of the TMI site have agreed to accept contaminated patients for emergency medical and surgical treatment and/or observation.

A comprehensive program of radiological control for injured/contaminated personnel has been developed and will be instituted when necessary during an emergency. The primary emphasis will be to initially address traumatic or life-threatening injuries since radiation injuries may not be immediately life threatening.

Detailed instructions for treatment and transportation of contaminated and injured individuals are specified in appropriate procedures.

5.4.2 Medical Transportation

Agreements have been made with local medical support organizations to provide ambulance services to the site. Ambulance personnel will be certified in accordance with State regulations. TMI will offer training to the squad members in the treatment and transportation of contaminated injured individuals. TMI will provide radiological control technicians if available to assist the squads enroute to the hospital. TMI or local first aid squads provide ambulance service for the facility.

When affected personnel must be transported, measures will be taken to prevent the spread of contamination. Such measures will include placing affected personnel in "clean" protective clothing or wrapping in blankets. The Emergency Director will ensure that these organizations, which provide the transportation and treatment, are alerted.

Detailed instructions for treatment and transportation of contaminated and injured individuals are specified in appropriate procedures.

A Letter of Agreement is established with the local Emergency Medical Services agencies to provide Emergency Medical Services in response to a Radiological Event including a Hostile Action Based Event. This includes transportation of patients from TMI, including those who may have been exposed to radiation or may have injuries complicated by radioactive contamination, to the Penn State Milton S. Hershey Medical Center (HMC) or Pinnacle Health Harrisburg Hospital upon dispatch by the Dauphin County Emergency Dispatch.

5.4.3 Medical Treatment

Arrangements for hospital and medical services for injured or contaminated / overexposed personnel are provided for by letters of agreement.

The first level of treatment can be given on-site by personnel trained in first aid. If the severity of the injury requires more extensive or prolonged treatment, the patient will be transported for the second level of assistance. For conventional injuries (that is, non-radiation injuries), the patient will be transported to any of the local hospitals.

Arrangements for hospital and medical services for injured and/or contaminated/overexposed personnel are provided by Pinnacle Health Harrisburg Hospital and Penn State Milton S. Hershey Medical Center. These hospitals have agreed to accept contaminated patients for emergency medical and surgical treatment or observation. Detailed plans and procedures are in place for decontamination and treatment of contaminated patients.

A Letter of Agreement is established for Pinnacle Health Harrisburg Hospital and Penn State Milton S. Hershey Medical Center to provide assistance in support of the Radiological Emergency Plan at Three Mile Island Station to the extent of their capabilities should an emergency situation, including hostile action based event, occur at the Three Mile Island Station.

5.5 Communications

5.5.1 Station to State / Local Communications Circuits

In addition to the Nuclear Accident Reporting System (NARS), the Bureau of Radiation Protection (BRP) Line is available for communications from the TMI Station with designated State / Local agencies: The BRP line is dedicated for use by the TSC to communicate plant status and radiological information to the BRP. Internal plant radiological assessment and discussions leading to the development of protective action recommendations should not occur over this circuit.

5.5.2 Station Telephone System

An EP Private Branch Exchange (PBX), separate from the Site PBX System, is available to support emergency communications. The EP PBX is powered from the OSF (TSC) UPS battery. The EP PBX provides 3-digit dialing and telephone stations can be grouped. The EP PBX has been set-up to support various intra-facility communications links as described in Section F.1 to the Three Mile Island (TMI) Station Radiological Emergency Plan.

Intra-facility and off-site communications are also supported by the existing Site PBX (948) phones.

The Site PBX System will be used to support various point-to-point communications serving the following functions:

- Environmental Assessment (TSC / EOF)
- In-Plant Radiological Controls (TSC/OSC)
- NRC Site Team (CR / TSC / OSC / EOF)

A separate drop off the Site PBX, referred to as the Off-Premise Exchange (OPX), is provided for EP communication purposes. The Site PBX is a DC-powered system with batteries receiving power through chargers fed from a normal AC source. Estimated battery life is 8 hours.

The OPX supports the Bureau of Radiation Protection (BRP) Line communications link.

Both the EP PBX and OPX (Site PBX) are routed via a common mix, originating in the Service Building, to the local telephone exchange. From the central mix located in the Service Building, the EP PBX (copper lines) and Site PBX (fiber optics) are routed along the same path to the local telephone central office (CO). No physical separation is in place nor required to reduce the probability of a common off-site failure (e.g., excavation, etc.).

The Nuclear Accident Reporting System (NARS) emergency communications system is also an EP Communication link to the offsite agencies. The primary communications method for the NARS line is via a dedicated Voice over IP connection, with automatic failover to satellite communications. The VoIP system is powered via a UPS with an 8 hour

estimated battery life. The backup communications for these links are provided by commercial telephone lines.

The availability of the satellite telephone provides reasonable backup to bypass this localized point of failure.

U.S. NRC telephones are on the Corporate PBX system from the Station, which is powered locally at the local office.

The Maintenance and Instrumentation telephone system also provides maintenance personnel with a direct communications circuit to the Control Room from strategic locations throughout the plant. The Maintenance and Instrumentation Phone System consists of three essentially independent circuits: the Nuclear Subsystem, the Turbine Subsystem, and the Fuel Handling Subsystem.

These circuits are designed for use between two or more locations during operations when direct communications between operators and/or maintenance personnel is required. Handsets and headsets are provided. The system is operable when headsets and/or handsets are plugged into the various stations of the three subsystems.

5.5.3 Coatesville EOF Telephone System

A dedicated Private Branch Exchange (PBX) is installed at the Coatesville facility to support emergency communications. This switch will control telephone communications in and between the facility, other Exelon locations, and non-Exelon locations.

Two separate T-1 leased lines are used from the TMI Site PBX to the Coatesville facility PBX to support intra-facility communications and offsite notifications. Separate carriers are used for each T-1 line to provide redundancy, with an auto "fail over" (transfer) feature incorporate to ensure continued communications over the various EP intra-facility circuits

The Coatesville facility PBX is designed with a 4-hour to provide a backup power source to the phone switch in the event of a simultaneous loss of normal power and the designated emergency diesel generator.

In the event of a PBX failure, outside dial capability is available through trunk lines from the Coatesville Service Building via the Corporate Sonic Link to the PECO Main Office Facility in Philadelphia, PA. These lines are designed to bypass the local central office (CO) to another site for commercial dial tone, if required.

In addition, designated power failure phone jacks that bypass the Coatesville PBX, are located at key workstations in the EOF to support continued communications in the event of a complete loss of electrical power to the Coatesville facility.

5.5.4 Radio Communications

Radio communication equipment used during normal plant operations will be used in an emergency to communicate with mobile units and to provide backup to the telephone system.

At TMI, radio capabilities include the following frequencies from Control Room, OSC, TSC, CAS/SAS and mobile vehicle / potable units, as applicable:

- TMI Operations Frequencies
- TMI Security Frequency
- Environmental and Radiological System Frequency
- Maintenance and Rad Con Frequency

Dedicated channels on the redundant T-1 lines to the TMI radio bay station in the TSC Radiological Assessment Room will allow access from the existing Coatesville multi-channel, fixed base radio system used under the common Emergency Plan for LGS & PBAPS. At the TSC bay station, the T-1 lines will tie into the Station Radio System, thus allowing the use of the existing Environmental and Radiological Frequency for communications with field survey team within the TMI 10-mile Emergency Planning Zone (EPZ).

The fixed base radio repeaters, antenna system and radio consoles for the Coatesville EOF are powered from a variety of emergency AC sources (diesel backup and alternate battery supplies).

5.5.5 Station Warning System

1. **Alarms**

Audible alarms are a quick and effective means of communicating emergency warnings on the site. Alarms currently installed at TMI include:

- Station Emergency Alarm
- Fire Alarm
- ~~Reactor Building Evacuation Alarm~~

Each alarm provides a distinctive sound that all site personnel and contractors are trained to recognize and respond to. The Station Emergency Alarm will be followed by an announcement that provides emergency information such as class of emergency declared, accountability directions, radiological precautions, etc. ~~At TMI-1, the Reactor Building evacuation alarm is supplemented with flashing lights at specific locations in the Reactor Building to provide both audible and visual warnings.~~

The Control Room alarm systems consist of overhead annunciators, panel annunciators and computer alarms. The overhead and panel annunciators consist of flashing translucent tiles and audible indicators (i.e., buzzer or horn). The computer alarms use annunciators and also provide specific data using the alarm printer. At TMI-1, alarm data is also provided by CRTs.

2. Plant Paging System

The Plant Paging System provides plant-wide paging from the Control Room and all remote stations plus private communications during normal operating conditions.

The plant paging system provides immediate warning and instructions to onsite personnel in the event of an emergency. Phone stations and speakers of this subsystem are located in vital plant areas.

5.6 Law Enforcement Agencies

A Letter of Agreement is established for Local Law Enforcement to support Three Mile Island Station to respond to a Radiological Event including a Hostile Action Based Event, in conjunction with the National Incident Management System in accordance with the established communications protocol.

5.7 Fire Fighting Organizations

A Letter of Agreement is established for the Local Fire Departments to respond to a Radiological Event including a Hostile Action Based Event, in conjunction with the Mutual Aid System, upon dispatch by the Dauphin and/or Lancaster County Emergency Dispatch Service

TABLE TMI 5-1: Inventory of Emergency Kits By General Category**I. RADIATION MONITORING****A. Typical Contents**

1. Full Face Respirators with Canisters
2. Survey Instruments - Radiation Survey Meters, Count Rate Meters
3. Dosimetry Equipment - Dosimeters/Chargers
4. Protective Clothing
5. Air Sampler and Cartridges
6. Support Materials - Paper, Pencils, Envelopes, Maps, Procedures, Etc.

II. FIRST AID**A. Minor Injury**

1. Contain items typically needed for minor injuries.
2. Placed throughout Plant

B. Employee Kits

1. Contain sufficient quantities to serve expected needs of approximately 100 employees.

NOTE: Locations as determined by Medical Department.

- a. Stretchers
- b. Employee size first aid kits

C. First Aid and Medical Facility

1. Equipment inventory to support professional medical treatment.
2. Contains equipment necessary for examination of patients.

III. DAMAGE CONTROL**A. Typical Equipment Available**

1. Hand tools
2. Cutting/Welding equipment
3. Patching materials
4. Portable blowers
5. Submersible pumps
6. Electrical equipment

APPENDIX 1: NUREG-0654 CROSS-REFERENCE

<u>Annex Section</u>	<u>NUREG-0654</u>
1.0	Part I, Section A
1.1	Part I, Section B
1.2	Part I, Section D
1.3	Part I, Section D
Figure TMI 1-1	Part I, Section D
Figure TMI 1-2	Part II, Section J.10
Figure TMI 1-3	Part II, Section J.10
Figure TMI 1-4	Part II, Section J.10 & 11
2.0	Part II, Section B.1
2.1	Part II, Section B.5
2.2	Part II, Section A.3
2.3	Part II, Section C.3
2.4	Part II, Section B.1 & 2
3.0	Part II, Section D
3.1	Part II, Section D.1 & 2
3.2	Part II, Section D.1 & 2
3.3	Part II, Section D.1 & 2
3.4	Not Applicable
3.5	Part II, Section D.3
Table TMI 3-1	Part II, Section D.1 & 2
Table TMI 3-2	Part II, Section D.1 & 2
4.1	Part II, Section E.1 & J.7
4.2	Part II, Section I.2 & 3
4.3	Part II, Section J.10.f
4.3.1	Part II, Section E.6
4.3.2	Part II, Section J.8
4.3.3	Part II, Section J.6.c
4.3.4.a	Part II, Section G.1 & 2
4.3.4.b	Part II, Section G.5
4.3.5	Part II, Section J.7
4.4.1	Part II, Section K.5 & 7
4.4.2	Part II, Section J.5
4.4.3	Part II, Section J.3
4.5	Not Applicable
EP-AA-111	Part II, Section I.2 & 3
Figure TMI 4-1	Part II, Section J.4
Figure TMI 4-2	Part II, Section J.4
5.1.1	Part II, Section B.1
5.1.2	Part II, Section H.1
5.1.3	Part II, Section H.1
5.1.4	Part II, Section H.2 & G.3.b
5.1.5	Part II, Section G.3.a
5.2.1	Part II, Section H.5.b, H.6.c & I.2
5.2.2	Part II, Section H.5.d

APPENDIX 1: NUREG-0654 CROSS-REFERENCE

<u>Annex Section</u>	<u>NUREG-0654</u>
5.2.3	Part II, Section H.5.a
5.2.4	Part II, Section H.5.a & 8
5.2.5	Part II, Section H.5.c
5.2.6	Part II, Section H.6.c
5.2.7	Not Applicable
5.2.8	Part II, Section H.6.b & 7, I.9-10
5.3	Part II, Section H.9-10
5.4	Part II, Section L.1 & 2
5.5	Part II, Section F.1
Table TMI 5-1	Part II, Section H.11
Appendix 1	Part II, Section P.8
Appendix 2	Part II, Section P.4

APPENDIX 2: SITE-SPECIFIC LETTERS OF AGREEMENT

The following is a listing of letters of agreement, memorandum of understanding, and contracts specific to emergency response activities in support of the TMI Station. Letters of agreement, memorandum of understanding, and contracts common to multiple Exelon Nuclear stations are listed under Appendix 3 to the Three Mile Island (TMI) Station Radiological Emergency Plan.

Local County Response Agencies

- Pennsylvania Emergency Management Agency Memorandum of Understanding (MOU) (letter on file)

NOTE: Documentation of agreement for Cumberland, Dauphin, Lancaster, Lebanon, and York counties are contained as part of the agreement with PEMA.

Medical Support Organizations and Personnel

- Londonderry Volunteer Fire Company (ambulance service)
- South Central Emergency Medical Services Inc.
- Northwest Emergency Medical Services
- Hershey Medical Center
- Pinnacle Health Harrisburg Hospital

Firefighting Organizations

NOTE: These are supplemented by Mutual Aid agreements with other firefighting as organizations.

- Bainbridge Volunteer Fire Company (Lancaster Co.)
- Middletown Volunteer Fire Department
- Londonderry Volunteer Fire Company
- Elizabethtown Fire Department
- Lower Swatara Volunteer Fire Department
- Susquehanna Area Regional Airport Authority (SARAA)

Other Agencies

- Norfolk Southern Railway Company
- AREVA *
- Harrisburg Area Community College
- Londonderry Volunteer Fire Department (staging area)

Law Enforcement Agencies

- Pennsylvania State Police#

Agreements with State and local law enforcement agencies are maintained by Station Security under the Nuclear Station Security Plan.

* Agreement is a Services and Materials Agreement maintained by Exelon BSC, Corporate Supply.

Attachment 3

**Three Mile Island Nuclear Station
Proposed Revision to Site Radiological Emergency Plan**

Exhibit C

Three Mile Island Radiological Emergency Plan
(Procedure EP-TM-1000)
(Clean Version)

EXELON NUCLEAR

THREE MILE ISLAND (TMI) STATION

RADIOLOGICAL EMERGENCY PLAN

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STATION ANNEX

The Station Annex subject to the requirements of this plan is as follows:

EP-AA-1009: Radiological Emergency Plan Annex for Three Mile Island Station

REVISION HISTORY

<u>REVISION</u>	<u>EFFECTIVE DATE</u>	<u>REVISION</u>	<u>EFFECTIVE DATE</u>
0	March 2018		
X	TBD 2019		

Section A: Purpose

As required in the conditions set forth by the Nuclear Regulatory Commission (NRC) for the operating licenses for the Exelon Nuclear Stations, the management of Exelon recognizes its responsibility and authority to operate and maintain the nuclear power stations in such a manner as to provide for the safety of the general public. This document describes the Three Mile Island Station Emergency Preparedness Program. The philosophy that guides the development and maintenance of this program is the protection of the health and safety of the general public in the communities around Three Mile Island Nuclear Station and the personnel who work at the plant.

The Three Mile Island Station Radiological Emergency Plan (E-Plan) establishes the concepts, evaluation and assessment criteria, and protective actions that are necessary in order to limit and mitigate the consequences of potential or actual radiological emergencies. It has been prepared to establish the procedures and practices for management control over unplanned or emergency events that may occur at Three Mile Island Nuclear Station. It also provides the necessary pre-arrangements, directions and organization so that all nuclear emergencies can be effectively and efficiently resolved.

The Three Mile Island Station Emergency Preparedness Program consists of the E-Plan, the Station Annex, emergency plan implementing procedures, and associated program administrative documents. The Three Mile Island Station E-Plan outlines the basis for response actions that would be implemented in an emergency. This document is not intended to be used as a procedure.

The Three Mile Island Station Annex contains information and guidance that are unique to the station. The annex addresses site-specific criteria, including:

- Emergency Action Levels (EALs) located in Addendum 3 to the Annex,
- Deviations from the E-Plan (such as station specific on-shift staffing, unique aspects of ERO augmentation, and so forth).
- Facility geography and location for a full understanding and representation of the station's emergency response capabilities.
- Plant specific facilities and equipment associated with the Emergency Preparedness Program.

The Station Annex and its Addendums become a part of the plan and is subject to the same review and audit requirements as the plan. In the areas where a Station Annex deviates from the general requirements of the E-Plan, the Station Annex shall serve as the controlling document.

Detailed E-Plan implementing procedures are maintained separately and are used to guide those responsible for implementing emergency actions.

Section B: Background

In the context of this E-Plan, the Station Annex, and implementing procedures, Exelon Nuclear manages the operations of the NRC licensed facility designated as Three Mile Island Nuclear Station, henceforth known as Three Mile Island (TMI).

The primary hazard consideration at the nuclear power station is the potential unplanned release of radioactive material resulting from an accident. The probability of such a release is considered very low due to plant design and strict operational guidelines enforced by the NRC. Notwithstanding, federal regulations require that a solid emergency preparedness program exist for each commercial nuclear power station. A detailed description of Three Mile Island is given in the Updated Final Safety Analysis Report (UFSAR).

In order to minimize the number of ad-hoc decisions made during an emergency and to ensure that necessary equipment, supplies, and essential services are available to meet the needs of an emergency, Exelon Nuclear has developed this E-Plan for Three Mile Island Nuclear Station. The E-Plan considers the consequences of radiological emergencies, as required by 10 CFR 50, Paragraph 50.47 and Appendix E.

Additionally, the E-Plan addresses guidance and adheres to the intent of the criteria established and provided within NUREG-0654. The E-Plan also considers the consequences of non-radiological emergencies.

Section C: Scope

This document describes actions to be taken in the event of a radiological accident at Three Mile Island that may impact the health and safety of the general public or station employees. It also serves to limit the damage to facilities and property, and provide for the restoration of such facilities in the event of an emergency. If such an accident were to occur, the Emergency Response Organization (ERO) would be put in place and maintained until such time where the plant is returned to a stable condition and the threat to the general public or station personnel no longer exists. This plan describes the functions and operation of the ERO, including assignments of authority and responsibility. It does not, nor is it intended to, provide guidance for actual plant equipment manipulations. These instructions are contained in site-specific normal and emergency operating procedures as required by Technical Specifications and other regulatory guidance. The E-Plan provides for: identification and evaluation of emergency situations, protective measures, communications, coordination and notification of governmental authorities, document review and control, emergency preparedness assessment, and training of all emergency personnel. An emergency recovery phase is also described in this E-Plan.

Section D: Planning Basis

The E-Plan, in conjunction with the Station Annex and implementing and administrative procedures, documents the methods by which the Three Mile Island Emergency Preparedness Program meets the planning standards set forth in 10 CFR 50.47(b) and the requirements of 10 CFR 50 Appendix E. Development of the E-Plan was based on NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants".

Acceptable alternate methods, which deviate from NUREG-0654, are allowed under Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors." However, deviations will be documented in the Station Annex and evaluated as continuing to meet the Planning Standards of 10 CFR 50.47(b) and Appendix E to 10 CFR 50 under the 10 CFR 50.54(q) process to ensure the continued effectiveness of the E-Plan and Station Annex.

Other applicable regulations, publications, and guidance were used (see Appendix 1, "References") along with site-specific documents to ensure consistency in the planning effort.

Section E: Contiguous-Jurisdiction Governmental Emergency Planning

The E-Plan recognizes the state, in cooperation with the local EPZ communities, as the overall authority responsible for protective action directives in order to protect the health and safety of the general public.

Section F: Integrated Emergency Planning

State and local (county level) emergency response plans were utilized in the development of this plan to ensure a consistent and integrated response to a classified event.

Section G: Funding and Technical Assistance

Exelon Nuclear is dedicated to providing the level of support necessary, as dictated by federal regulation, to ensure appropriate integration of the state, county, and utility radiological emergency programs.

Section H: Emergency Response Organization

Exelon Nuclear acknowledges its primary responsibility for planning and implementing emergency measures within the site boundary and for overall plant accident assessment. These emergency measures include corrective actions, protective measures, and aid for personnel onsite. To accomplish these responsibilities, advance arrangements have been made with offsite organizations for special emergency assistance such as ambulance, medical, hospital, fire, and police services.

Section I: Federal Response

Provisions are made within the E-Plan for the integration of appropriate elements of the federal assistance activities. Arrangements have been made to accommodate a federal response organization presence at the Exelon Nuclear emergency response facilities as well as support communications between utility and federal emergency facilities. NRC response as described in NUREG-1471, "Concept of Operations: NRC Incident Response", was used in the development of the E-Plan as guidance to ensure coordination between Exelon Nuclear and NRC EROs.

Section J: Form and Content of Plan

As required by federal regulations, the E-Plan is governed by and contained (or referenced) in the Station UFSAR. The E-Plan is administratively maintained as a separate document. The E-Plan has been formatted similar to NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants." The use of this format lends itself to uncomplicated comparison with the criteria set forth in NUREG-0654/FEMA-REP-1.

Appendix 2, "Procedure Cross-Reference to NUREG-0654", provides a cross-reference between the NUREG-0654 evaluation criteria and the E-Plan implementing procedures and applicable administrative documents.

Required Content of the Station Annex

Information that is in the plan need not be restated in the Annex. The Annex shall address what means, methods, and resources are used to satisfy the requirements and responsibilities set forth in the E-Plan.

Annex Format and Specific Content: As a minimum, the Station Annex shall address the areas described as follows:

1. Section 1: Introduction

The station and surrounding area are described by the inclusion of maps, drawings and/or diagrams. A summary statement describes the Annex's interface with the E-Plan.

2. Section 2: Organizational Control of Emergencies

The agencies with which the station has independent agreements for support during an emergency are provided. Station specific differences from the E-Plan, such as on-shift staffing or ERO augmentation, shall be outlined. The justification for differences shall be provided as required under 50.54(q) documentation.

3. Section 3: Classification of Emergencies

The Classification levels are described in this Section. Note that the Site Specific EALs are located in Addendum 3 to the Annex and are included for all emergency classes for the purpose of event classification.

4. Section 4: Emergency Measures

Maps indicating the location of Assembly Areas, site evacuation routes, and centers for the monitoring of evacuated nonessential personnel are included. Roadway/traffic control measures of roads under control of the station are addressed.

5. Section 5: Emergency Facilities and Equipment

- Descriptions of the station Control Room, Technical Support Center and Operational Support Center are provided.
- A description of the specific equipment is provided.
- A description of the capability and resources available to categorize accidents.

Section A: Assignment of Responsibility

This section describes the primary responsibilities and organizational control of Exelon, federal, state, county, and other emergency response organizations within the Plume Exposure Pathway and the Ingestion Pathway Emergency Planning Zones (EPZs). Various supporting organizations are also described as well as staffing for initial and continuous response.

1. Concept of Operations

The relationships and the concept of operations for the organizations and agencies who are a part of the overall ERO are as follows:

- a. Identified below are federal, state, and county organizations that are involved in a response to an emergency at Three Mile Island.

- 1) Federal Agencies: The National Response Framework (NRF), Nuclear/Radiological Incident Annex outlines the statutory and regulatory responsibilities. The primary federal response for supporting an emergency at an Exelon station include:

- a) Nuclear Regulatory Commission (NRC): The NRC is responsible for licensing and regulating nuclear facilities and materials and for conducting research in support of the licensing and regulatory process. These responsibilities include protecting the public health and safety, protecting the environment, protecting and safeguarding materials and plants in the interest of national security and assuring conformity with antitrust laws.

The NRC Regional Office has the responsibility for auditing of nuclear power stations. It is responsible for ensuring that such activities are conducted in accordance with the terms and conditions of such NRC licenses and that as a result of such operations, there is no undue risk to the health and safety of the public.

The NRC Office of Nuclear Reactor Regulation, established by the Energy Reorganization Act of 1974, as amended, performs licensing functions associated with the construction and operation of nuclear reactors and with the receipt, possession, ownership, and use of special nuclear and byproduct materials used at reactor facilities.

With regard to emergency preparedness, the NRC shall:

- Assess licensee emergency plans for adequacy;
- Review the Federal Emergency Management Agency findings and determinations on the adequacy and capability of implementation of state and local plans; and
- Make decisions with regard to the overall state of emergency preparedness and issuance of operating licenses.

The NRC shall respond to incidents at licensed facilities or vehicular accidents involving licensed materials, including radionuclides, in transit. The NRC shall act as the lead Federal agency with regard to technical matters during a nuclear incident including radiological assistance. The NRC shall be prepared to recommend appropriate protective actions for the public and technical actions to the licensee. FEMA shall act as the lead Federal agency for offsite, non-technical concerns.

During an incident, the Chairman of the Commission is the senior NRC authority for all aspects of a response. The Chairman shall transfer control of emergency response activities to the Director of Site Operations when deemed appropriate by the Chairman.

All NRC Regions as well as Headquarters are prepared to respond to potential emergencies. All Regions and Headquarters have developed plans and procedures for responding to radiological incidents involving NRC licensees. Headquarters has developed the NRC Incident Response Plans and Implementing Procedures. Each NRC Region has developed Regional Supplements that detail how the Region will fulfill all of the responsibilities assigned in the NRC Incident Response Plan. All NRC organizations are responsible for maintaining an effective state of preparedness through periodic training, drills and exercises.

Each Region and Headquarters have established and maintain an Incident Response Center designed to centralize and coordinate the emergency response function. Adequate communications are established to link the licensee, Headquarters and the Region. The NRC has established lines of communications with local government, state government, other Federal agencies, Congress and the White House. Public information will be disseminated in a timely manner and periodically.

Each Region is prepared to send a team of qualified specialists to the scene expeditiously. All of the necessary supplies and equipment needed for emergency response will be provided and maintained by the NRC.

The NRC Incident Response Plan objectives are to provide for protection of the public health and safety, property, and the environment, from the effects of radiological incidents that may occur at licensed facilities or which involve licensed materials, including radio-nuclides in transit.

The objectives of the agency plan set forth the organizational and management concepts and responsibilities needed to assure that NRC has an effective emergency response program.

The plan is intended to ensure NRC preparedness:

- To receive and evaluate notification information of incidents, accidents and unusual events and determine the extent of NRC response necessary to meet NRC responsibilities for mitigating the consequences of these events;
 - To determine the cause of incidents, accidents, and unusual events in order to ensure that appropriate corrective actions are taken by the licensee to minimize the consequences of these events;
 - To provide onsite expertise in a timely manner, to evaluate the nature and extent of the incident, ascertain plant status (for reactors and fuel facilities), monitor licensee activities, determine compliance, make recommendations, and, if necessary, issue orders relative to the event;
 - To inform the public and others of plant status and technical details concerning the incident;
 - To recommend adequate protective actions to the responsible local and/or state agencies;
 - To provide technical assistance;
 - To ensure the plant is returned to a safe condition; and
 - To return the NRC Headquarters and Regional office to normal operations.
- b) Federal Emergency Management Agency (FEMA): Per the National Response Framework (NRF), FEMA is responsible for the overall coordination of a multi-agency Federal response to a significant radiological incident. The primary role of FEMA is to support the state by coordinating the delivery of Federal non-technical assistance. FEMA coordinates state requests for Federal assistance, identifying which Federal agency can best address specific needs. If deemed necessary by FEMA, it will establish a Federal Response Center from which it will manage its assistance activities.
- c) Federal Radiological Preparedness Coordinating Committee (FRPCC): The FRPCC consists of the Federal Emergency Management Agency, which chairs the Committee, the Nuclear Regulatory Commission, the Environmental Protection Agency, the Department of Health and Human Services, the Department of Energy, the Department of Transportation, the Department of Defense, the Department of Agriculture, the Department of Commerce, and where appropriate and on an ad hoc basis, other Federal departments and agencies. The FRPCC shall assist FEMA in providing policy direction for the program of Federal assistance to state and local governments in their radiological emergency planning and preparedness activities.

- d) U.S. Department of Energy (DOE): The Department of Energy (DOE) has extensive radiological monitoring equipment and personnel resources that it can assemble and dispatch to the scene of a radiological incident. The Department of Energy (DOE) local operations office can assist Exelon Nuclear following a radiological incident as outlined in the Federal Radiological Monitoring and Assessment Plan (FRMAP). If Exelon Nuclear, the NRC or the affected state(s) deem that assistance from DOE is necessary or desirable, the affected state(s) would notify the appropriate DOE operations office.
 - e) Environmental Protection Agency (EPA): Assists with field radiological monitoring/sampling and non-plant related recovery and reentry guidance.
 - f) The U.S. Coast Guard (USCG): The USCG patrols and ensures the safety of navigable waterways in the United States. The USCG is promptly notified of any oil or hazardous substance discharges into rivers or lakes or radioactive contamination of rivers or lakes under its jurisdiction at levels requiring assistance to effect protective actions. The USCG is contacted by the appropriate state agencies in the event of an incident at an applicable nuclear power plant. The USCG is responsible for officially closing the waterways to all commercial traffic [Refer to the appropriate State Plan].
 - g) U.S. Army Corps of Engineers: The U.S. Army Corps of Engineers control barge and boat traffic at locks and dams on navigable waterways in the United States. The Corps of Engineers will be contacted by the appropriate state agencies in the event of an incident at an applicable nuclear power plant. The Corps will be responsible for closing their locks and dams to all waterway traffic leading to the affected area, allowing only traffic leaving the area [Refer to the State Plan].
 - h) Federal Bureau of Investigation (FBI): Support from the FBI is available through its statutory responsibility based in Public Law and the US code, and through a memorandum of understanding for cooperation with the NRC. Notification to the FBI of emergencies in which they would have an interest will be through provisions of the Nuclear Station's Security Plan, or by the NRC.
 - i) National Weather Service (NWS): Provides meteorological information during emergency situations, if required. Data available will include existing and forecasted wind directions, wind speed, and ambient air temperature.
- 2) State Agencies
- a) The Commonwealth of Pennsylvania: The Commonwealth organizations having prime responsibility in matters of radiation hazards are the Pennsylvania Emergency Management Agency and the Bureau of Radiation Protection (BRP) of the Pennsylvania Department of Environmental Protection.

- Pennsylvania Emergency Management Agency: Responsibilities of PEMA are outlined in Annex E, "Radiological Emergency Response to Nuclear Power Plant Incidents" of the Commonwealth of Pennsylvania Emergency Operations Plan. PEMA is the primary State agency to interface with FEMA. Any BRP requests for non-technical assistance from FEMA are coordinated through PEMA.
- Department of Environmental Protection, Bureau Of Radiation Protection (DEP/BRP): Responsibilities of DEP/BRP are outlined in Annex E of the Commonwealth of Pennsylvania Emergency Operations Plan.
- Pennsylvania State Police: Responsibilities of the State Police are set forth in Annex E of the Commonwealth of Pennsylvania Emergency Operations Plan.

3) County Government Agencies

Exelon and the surrounding communities that comprise the Plume Exposure Pathway EPZs have developed integrated emergency response programs that call upon the resources of their community. The community organizations are responsible for implementing and coordinating the community response to an emergency.

The County Emergency Operations Centers (EOCs) serve as the primary coordinating center for local government response within the county's jurisdiction and for coordination between counties.

- b. During an event classified as an Alert, Site Area Emergency, or General Emergency, the Exelon Nuclear ERO replaces the normal plant organization. The Exelon Nuclear ERO consists of three major response sub-organizations:

1) The Station Organization, directed by the Station Emergency Director, provides for:

- Control and operation of the plant.
- Mitigation of the emergency condition.
- Protection of station personnel.
- Emergency event classification.
- Notification of the appropriate individuals and Federal agencies prior to EOF taking Command and Control.
- Emergency support for operations, engineering, maintenance, fire fighting, material acquisition, security, and first aid.

- 2) The Corporate Organization, directed by the Corporate Emergency Director, provides for:
 - Emergency notifications to Federal, state and local agencies.
 - Offsite radiological accident assessment and Protective Action Recommendations to offsite authorities.
 - The primary interface between Exelon Nuclear and outside organizations responsible for the protection of the public.
 - 3) The Public Information Organization, directed by the Corporate Spokesperson, coordinates with public information officers from other organizations to provide information to the public through the news media.
- c. Interrelationships between major Exelon Nuclear organizations and sub-organizations in the total response effort are illustrated in a block diagram in Figures A-1 and A-2. For a more detailed diagram of the Exelon Nuclear ERO, see Figures TMI B-1a to TMI B-1d.
 - d. The Corporate Emergency Director is a senior Exelon employee with overall responsibility for coordinating emergency response actions in support of the affected Exelon Nuclear station, Emergency Public Information Organization, and affected state(s) and local agencies.
 - e. Procedures for training and maintenance of the emergency organization are in place to ensure 24-hour per day staffing for emergency response, including established communication links.

2. State and County Functions and Responsibilities

The state and counties have emergency response plans that specify the responsibilities and functions for the major agencies, departments, and key individuals of their emergency response organizations. This information is located in their respective plans.

3. Agreements in Planning Effort

Written agreements establishing the concept of operations developed between Exelon Nuclear and other support organizations having an emergency response role within the EPZs have been developed. These agreements identify the emergency measures to be provided, the mutually accepted criteria for implementation, and the arrangements for exchange of information. Agreement letters are not necessary with Federal Agencies who are legally required to respond based on Federal law; however, agreements are necessary if the agency was expected to provide assistance not required by law. Letters of Agreement with private contractors and others who provide services in support of the station shall be obtained by the station and are maintained on file at the station. Exelon Corporate maintains Letters of Agreement with organizations that provide support to multiple stations. A contract/purchase order with

a private contractor is considered acceptable in lieu of a Letter of Agreement for the specified duration of the contract.

4. Continuous Coverage

Exelon Nuclear maintains 24-hour emergency response capability at Three Mile Island. The normal on-shift complement provides the initial response to an emergency. This group is trained to handle emergency situations (e.g. initiate implementation of the E-Plan, make initial accident assessment, emergency classification, notifications, communications, and protective action recommendations) until the augmented ERO arrives. The ERO is composed of a broad spectrum of personnel with specialties in operations, maintenance, engineering, radiochemistry, health physics, material control, fire protection, security, and emergency planning and are available and trained to augment on-shift personnel in an emergency. Procedures for training and maintenance of the emergency organization are in place to provide the capability of continuous (24-hour) operations.

The Corporate Emergency Director, located in the EOF, has the authority and responsibility for assuring continuity of resources (technical, administrative, and material) in the event of the activation of the ERO.

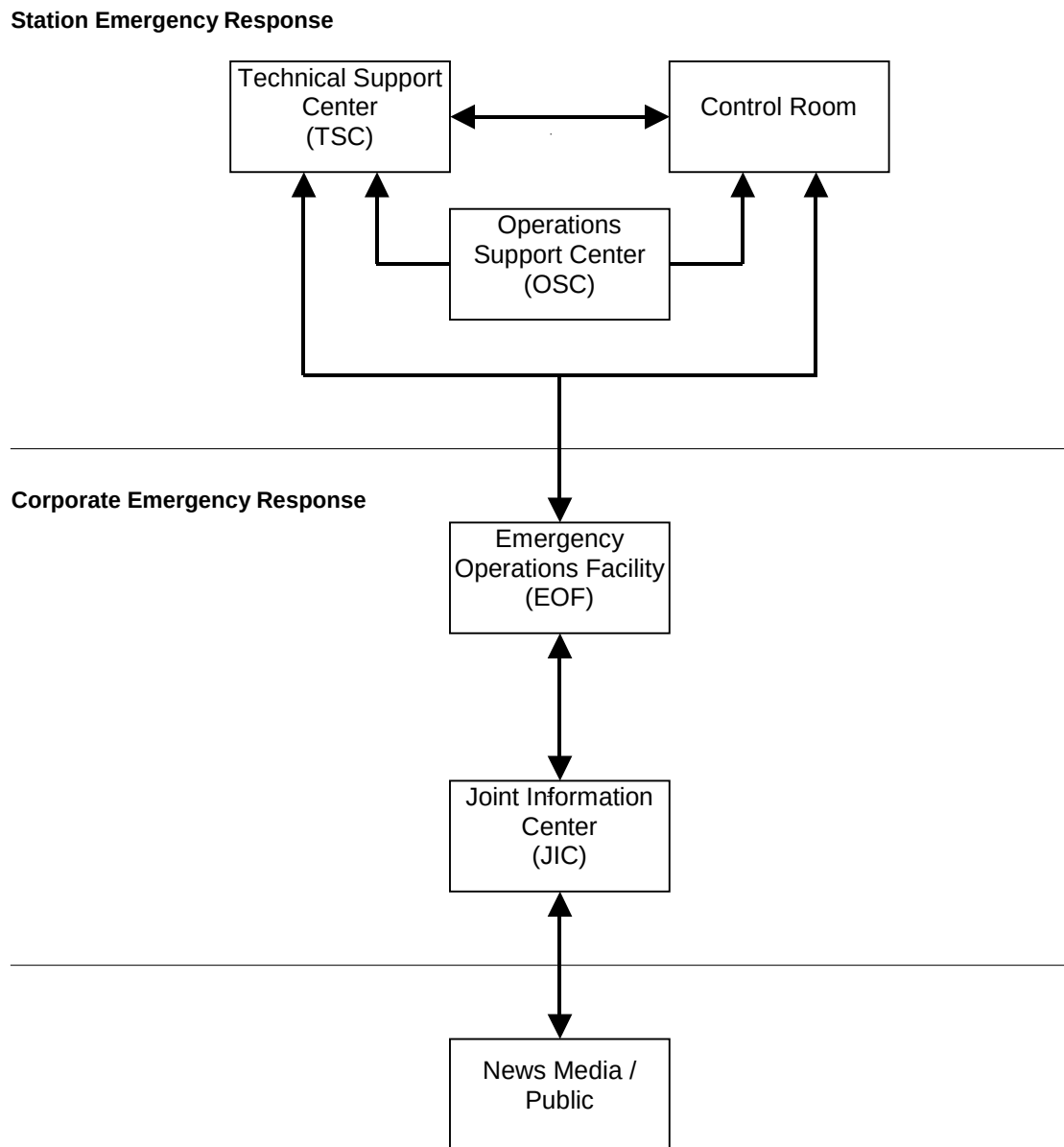
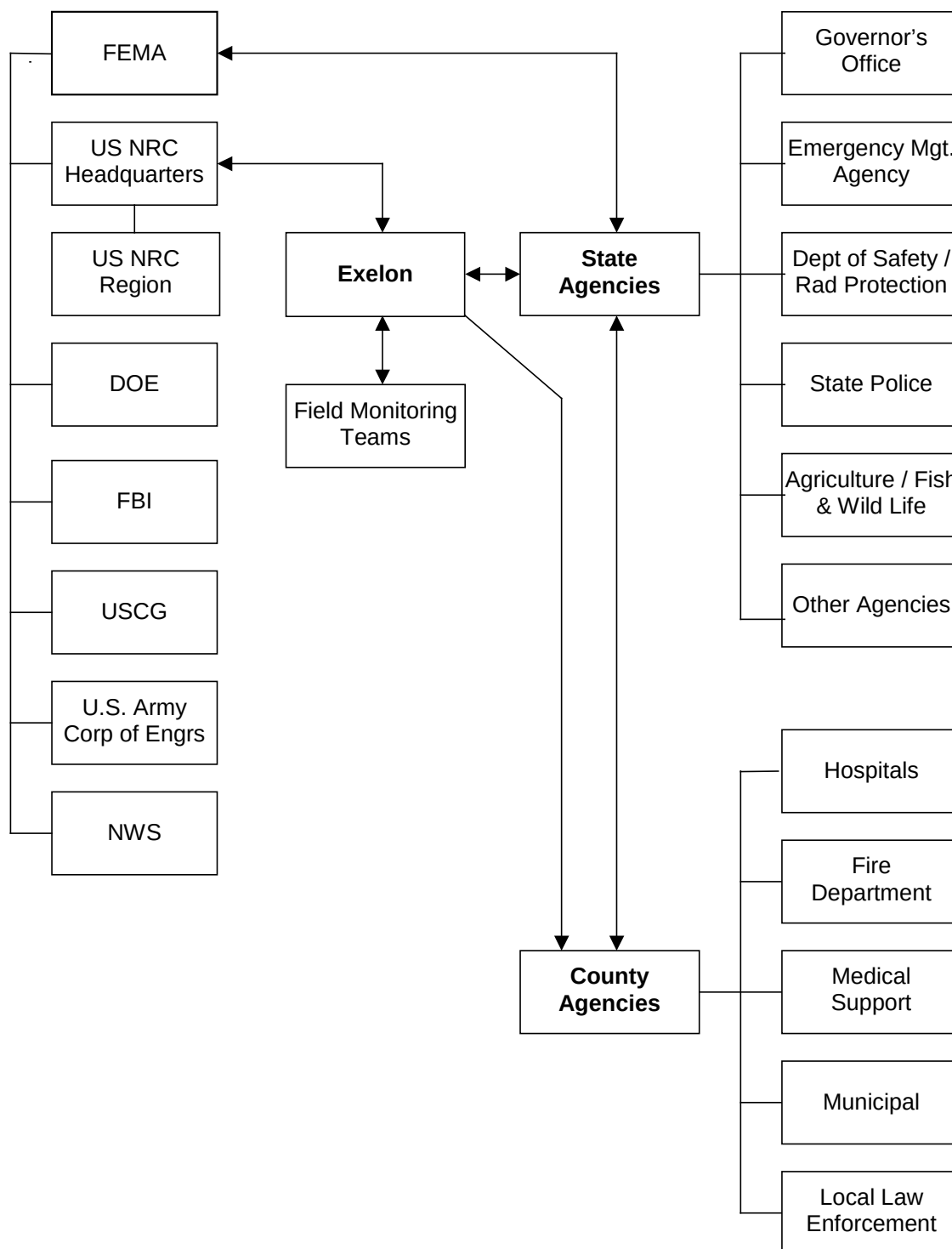
Figure A-1: Exelon Emergency Response Organization Interrelationships

Figure A-2: Agency Response Organization Interrelationships

Section B: Exelon Nuclear Emergency Response Organization

This section describes the Exelon Nuclear Emergency Response Organization (ERO), its key positions and associated responsibilities. It outlines the staffing requirements which provide initial emergency response actions and provisions for timely augmentation of on-shift personnel when required. It also describes interfaces among Exelon Nuclear emergency response personnel and specifies the offsite support available to respond to TMI Station.

1. On-Shift Emergency Response Organization Assignments

The normal plant personnel complement is established with the Station Plant Manager having overall authority for station operations. The Station Plant Manager directs the site organization in the management of the various departments while the Shift Manager retains the responsibility for actual operation of plant systems. Emergency Preparedness must consider the capabilities of the normal plant organization, the Station and Corporate Emergency Response Organizations of Exelon Nuclear, and the non-Exelon Nuclear Emergency Response agencies. The initial phases of an emergency situation at a nuclear station will most likely involve a relatively small number of individuals. These individuals must be capable of (1) determining that an emergency exists; (2) providing initial classification and assessment; and (3) promptly notifying other groups and individuals in the emergency organization. The subsequent phases of the emergency situation may require an increasing augmentation of the emergency organization.

The TMI Station has personnel on shift at all times that can provide an initial response to an emergency event. ERO staffing tables contained within this Emergency Plan outline the plant on-shift emergency organization and its relation to the normal staff complement. Members of the on-shift organization are trained on their responsibilities and duties in the event of an emergency and are capable of performing all response actions in an Unusual Event or the initial actions of higher classifications.

On Shift Personnel

The TMI Station has the capability at all times to perform detection, mitigation, classification, and notification functions required in the early phases of an emergency. Shift augmentation and further ERO involvement will be determined by the extent and magnitude of the event.

Shift Manager: While acting as Shift Emergency Director, will take immediate action during an emergency and will activate the Station ERO, as appropriate. In the Shift Manager's absence or incapacitation, the line of succession is defined by TMI procedures.

Radiation Protection: The Station Radiation Protection personnel are responsible for the handling and monitoring of radioactive materials. Included in this organization are Health Physicists, Radiation Protection Supervisors and Technicians.

Chemistry: The Station Chemistry (or designated on-shift) personnel are responsible for sampling of system effluents, and the chemical and radio-analytical analysis of those samples. Included in this organization are Chemists, Chemistry Supervisors and Technicians.

Security: The Station Security personnel are responsible for the physical security of the site. Included in this organization are Security Supervisors and Security Guards.

2. Authority Over the Emergency Response Organization

The Emergency Director in Command and Control is the designated Exelon Nuclear individual who has overall authority and responsibility, management ability, and technical knowledge for coordinating all emergency response activities at the nuclear power station.

- Control Room: Shift Emergency Director (Shift Manager)
- TSC: Station Emergency Director
- EOF: Corporate Emergency Director

3. Criteria for Assuming Command and Control (Succession)

Emergency personnel assume responsibility for their positions upon receiving notification to activate. The responsibility for initial assessment of and response to an emergency rests with the Shift Manager. The Shift Manager is the Shift Emergency Director and has the Station and Corporate Emergency Director's responsibilities and authority until relieved. The Corporate Emergency Director, once having relieved the Shift Manager of the Emergency Director responsibilities, is responsible for continued assessment of the severity of the emergency and for the necessary functions as described in the E-Plan, the Station Annex, and the emergency implementing procedures.

The Shift Emergency Director is relieved of Command and Control as soon as possible after the declaration of an Alert (or higher classification if Alert not declared). Following the Command and Control turnover, the Corporate Emergency Director shall have overall Command and Control of the Emergency Response. Note that the Station Emergency Director takes responsibility for onsite Non-Delegable Responsibilities including Classification and Emergency Exposure Control. The Corporate Emergency Director takes responsibility for offsite Non-Delegable Responsibilities including Protective Action Recommendations and State/local Notifications. Command and Control does not transfer until the following criteria have been met:

- Adequate staff levels are present in support of the non-delegable responsibilities.
- The staff has been fully briefed as to the status of the event and the currently proposed plan of action.
- A turnover between the Emergency Director relinquishing Command and Control and the Emergency Director assuming Command and Control has been made.

Although the Three Mile Island ERO fulfills all regulatory requirements for emergency response, it may be altered by the Emergency Director. This type of alteration will be based upon identified needs within the ERO, event dependent criteria, and identified needs of the company as a whole.

4. Non-Delegable Responsibilities

Non-delegable responsibilities include the following functions:

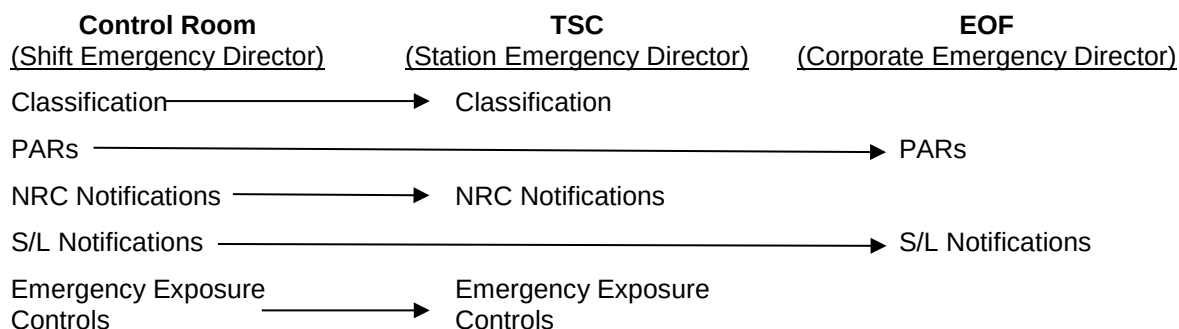
- Event classification.
- Protective Action Recommendations (PARs) for the general public.
- Notification of offsite authorities (approval of state/local and NRC notifications).
- Authorization of emergency exposure controls in excess of 5 Rem TEDE and the issuance of potassium iodide (KI), for Exelon Nuclear emergency workers per EPA-400.

The Shift Manager is responsible for the initial classification of an event and assumes the position as Shift Emergency Director. In this capacity, the Shift Manager has responsibility for performing the non-delegable responsibilities until relieved.

The Shift Emergency Director is relieved of Command and Control as soon as possible after the declaration of an Alert (or higher classification if Alert not declared). Command and Control is transferred to the Station Emergency Director but may be transferred directly to the Corporate Emergency Director.

The Station Emergency Director assumes overall authority and responsibility for Classification and Emergency Exposure Control and NRC Communications. The Corporate Emergency Director (EOF) will assume the non-delegable responsibilities for PAR determination and notifications to State and Local authorities.

Transition of "Non-Delegable" Responsibilities



5. Emergency Response Organization Positional Responsibilities

The Emergency Plan designates two types of augmented ERO responders. Those designated as Minimum Staff are those key ERO needed to relieve the on-shift staff of key EP functions/tasks required in response to the Emergency and are those required to activate their respective Emergency Response Facility (ERF).

Specifically, these are the ERO that are the absolute minimum needed to implement

the emergency plan (i.e., if any position or function is not staffed then the emergency plan may not be effectively implemented). These positions in most cases are required to respond to their respective ERF within 60 minutes of the declaration of an Alert or higher.

The positions which are considered Full Augmented staff (i.e., non-min staff) are those positions which provide support for the minimum staff in their response to the Emergency. The Full Augmentation positions consist mostly of liaisons, coordinators and additional communicators which help facilitate communication and the emergency response effort over time, but are not directly needed to implement the functions/tasks identified in the Emergency Plan.

ERO staffing tables contained within this Emergency Plan outline ERO positions required to meet minimum staffing and full augmentation of the on-shift complement at an Alert or higher classification, and the major tasks assigned to each position. The full augmentation staffing levels are used as a planning basis to cover a wide range of possible events described in Emergency Preparedness Implementing Procedures (EPIPs). For extended events (ones which last for more than 24 hours), actual staffing will be established by the Emergency Director based on the event and personnel availability. However, additional staffing or reduced staffing will only occur after discussion concerning the impact on plant operations and emergency response.

In addition to maintaining adequate documentation of the event, responsibilities for each position are as follows:

- a. Station Emergency Response Organization: The Station ERO is the onsite group that is activated during an emergency. It functions under the Station Emergency Director, who is responsible for organizing and coordinating the emergency efforts at and within the immediate vicinity of the station (including carrying out all onsite emergency efforts and the initial offsite environs monitoring efforts necessary to assess plant releases).

The Station ERO consists of station personnel who are involved with emergency response efforts necessary to control the plant during an incident. This organization operates out of the Control Room, the Technical Support Center (TSC) and the Operations Support Center (OSC). Collectively, members of the Station ERO provide for the following activities during an emergency:

- Plant systems operations
- Radiological survey and monitoring (including Environs Monitoring)
- Firefighting
- Rescue operations and First Aid
- Decontamination
- Security of plant and access control
- Repair and damage control
- Personnel protection including Assembly, Accountability and Evacuation

- Communications
- Initial Liaison responsibilities with Federal, state and local authorities

All Station ERO personnel shall have the authority to perform assigned duties in a manner consistent with the objectives of this plan.

1) Shift Manager (Shift Emergency Director) Control Room

A Shift Manager is on duty 24 hours a day and is the Shift Emergency Director in a declared emergency until relieved of this function. While serving in this capacity the Shift Manager is responsible for:

- Activating the ERO (as deemed appropriate or as procedurally required).
- Performing those duties outlined in Section B.5.a.2 for the Station Emergency Director. The responsibilities described for the Station Emergency Director applies to either the Shift Emergency Director or the Station Emergency Director depending on which individual is in Command and Control.

The on-duty Shift Manager directs the activities of the operating crew and is responsible for the safe operation of the plant in compliance with the station NRC operating license and the station operating procedures. The Shift Manager, after relinquishing Command and Control, functionally reports to the Operations Manager in the TSC.

The Shift Manager's responsibilities, when not in Command and Control, are described below:

- The responsibility to adhere to the station Technical Specifications and to review routine operating data to assure safe operation;
- The responsibility to identify applicable EALs and emergency classifications; and
- The responsibility to adhere to plant operating procedures and the requirements for their use. During an emergency, operations personnel may depart from approved procedures where necessary to prevent injury to personnel, including the public, or damage to the facility consistent with the requirements of 10 CFR 50.54(x) and (y).
- Supervise the activities of the Control Room Crew.

2) Station Emergency Director**TSC**

The Station Emergency Director reports to the Corporate Emergency Director and supervises and directs the Station ERO. The Station Emergency Director's responsibilities include organizing and coordinating the onsite emergency efforts. Additionally, the Station Emergency Director has the requisite authority, plant operating experience and qualifications to implement in-plant recovery operations.

a) Station Emergency Director Responsibilities:

- Conduct personnel assembly/accountability and evacuation of non-essential personnel at Site Area Emergency, General Emergency or as conditions warrant.
- If the emergency involves a hazardous substance and/or oil discharges, ensure that appropriate notifications and responses have been made.
- Determine if the OSC is to remain activated at the Alert Classification.
- Event classification.
- Emergency exposure controls.
- Protective actions for all onsite personnel.
- Supervision of the Station ERO.
- Inform the Corporate Emergency Director and onsite NRC as to the status of the plant.
- Assist the Corporate Emergency Director in the acquisition of information for the state/local notifications, NRC notifications and offsite agency updates.
- Provide information and recommendations to the Corporate Emergency Director.
- Implement plans, procedures and schedules to meet emergency response objectives as directed by the Corporate Emergency Director.
- Request from the Corporate ERO any additional material, personnel resources or equipment needed to implement response plans and operations.

3) ENS Communicator TSC

General responsibilities assigned to the ENS Communicator include:

- Establish communications with appropriate parties as directed.
- Transmit information that has been reviewed and/or approved by the responsible Manager or Coordinator.
- Document time, date and information being transmitted or received on appropriate forms.
- Record and relay inquiries and the responses to those inquiries.
- Assist appropriate Managers and Coordinators in maintaining proper records and logs of emergency related activities.
- Gather, record and post appropriate information.
 - Notify the NRC of changes in event classification and assist in completing the NRC Event Notification Worksheet and responding to NRC inquiries.
 - Provide real time updates of significant changes to plant and system status and responses to NRC inquiries.
 - Maintain continuous communications with the NRC, if requested, via the NRC ENS phone or commercial telephone line.

4) Operations Manager TSC

The Operations Manager reports to the Station Emergency Director. Major functions include determining the extent of station emergencies, initiating corrective actions, and implementing protective actions for onsite personnel. In the event that the Station Emergency Director becomes incapacitated and can no longer fulfill the designated responsibilities, the Operations Manager will normally assume the responsibilities until relieved by another qualified Station Emergency Director. Responsibilities include:

- Coordinate TSC efforts in determining the nature and extent of emergencies pertaining to equipment and plant facilities in support of Control Room actions.
- Initiate immediate corrective actions to limit or contain the emergency invoking the provisions of 10 CFR 50.54(x) if appropriate.
- Recommend equipment operations checks and miscellaneous actions to the Control Room in support of restoration and accident mitigation.

- Approve emergency special procedures, and implement as required under the provisions of 10 CFR 50.54(x).
- Assist the Maintenance Manager in determining the priority assigned to OSC activities.
- Organize and direct medical response efforts for injured personnel.
- Ensure adequate staffing of the Control Room and TSC subordinates.
- Ensure the Shift Manager is informed of OSC staffing utilization and activities.
- Identify steps or procedures that the Operations staff should be utilizing to properly respond to the emergency condition.
- Assist the Station Emergency Director in evaluating changes in event classification.
- Supervise the activities of the ENS Communicator in the TSC.
- Act as the TSC liaison with the appropriate NRC Site Team Representative.
- Apprise the TSC and EOF staff of the overall plant condition and significant changes to system and equipment status.
- Inform the Control Room, TSC, and EOF of significant changes in event status (e.g. changes in classification, command and control, initiation of station assembly, accountability, evacuation, etc.).

5) Technical Manager TSC

The Technical Manager reports to the Station Emergency Director and performs technical assessments of station emergencies and assists in recovery planning. Responsibilities include:

- Accumulate, tabulate and evaluate data on plant conditions.
- Evaluate plant parameters during an emergency to determine the overall plant condition.
- Identify data points and control parameters that the Operations staff should monitor.
- Ensure that current and adequate technical information is depicted on status boards.
- Identify and develop special procedures needed to mitigate a release.

- Act as the TSC liaison with state and appropriate NRC Site Team representatives.
- Assist the Radiation Protection Manager for onsite radiological/technical matters.
- Provide EOF with updates on technical support activities and priorities.
- Ensure that the NRC Site Team Representatives are directed to their appropriate counterparts.

6) Radiation Protection Manager (RPM) TSC

The Radiation Protection Manager reports to the Station Emergency Director. The TSC RPM directs a staff in determining the extent and nature of radiological or hazardous material problems onsite. Responsibilities include:

- Accumulate, tabulate and evaluate data on plant conditions such as meteorological and radiological monitoring readings, and other pertinent data.
- Act as the TSC liaison with the appropriate NRC Site Team representative.
- Ensure use of protective clothing, respiratory protection, and access control within the plant as deemed appropriate to control personnel exposures.
- Ensure that appropriate bioassay procedures have been implemented for onsite personnel when a radioactivity incident has occurred.
- Ensure that personnel are decontaminated, if necessary.
- Authorize personnel exposures below 5 Rem TEDE (EPA-400 lower limit).
- Assist the Station Emergency Director in determining if exposures in excess of the 5 Rem TEDE (EPA-400 lower limit) are necessary.
- Advise the Station Emergency Director of situations when the use of KI should be considered.
- Advise the Station Emergency Director and EOF Radiation Protection Manager of changes in radiological release status.
- Assist the Operations Manager in planning rescue operations and provide monitoring services as required, including the transfer of injured and/or contaminated personnel.
- Coordinate with the Security Coordinator to determine the routes to be used for evacuation of non-essential personnel.

- Assure additional radiation protection personnel and/or equipment is arranged for, as necessary.
- Evaluate radiological and hazardous material surveys and chemistry sample results as appropriate.
- Monitor habitability concerns impacting access to plant and site areas.
- Assemble and dispatch the Field Monitoring Teams as required.

7) Maintenance Manager TSC

The Maintenance Manager reports to the Station Emergency Director and directs a staff in providing labor, tools, protective equipment and parts needed for emergency repair, damage control and recovery efforts to place the plant in a safe condition or return the plant to its pre-accident status. Responsibilities include:

- Direct the total onsite maintenance and equipment restoration effort.
- Request additional equipment in order to expedite recovery and restoration.
- Supervise the activities of the OSC Director.
- Ensure the Operations Manager is informed of OSC staffing utilization and activities.
- In coordination with the Operations Manager, determine the priority assigned to OSC activities.
- Ensure adequate staffing of the OSC.
- Assist in rescue operations.
- Identify required procedures that need to be written or implemented in support of the response efforts.
- Relay requests from the Control Room and TSC for the dispatching of OSC Teams.

8) Security Coordinator TSC

The Security Coordinator reports to the Station Emergency Director and maintains plant security and personnel accountability at the nuclear station. Responsibilities include:

- Maintain plant security and account for all personnel within the protected area.
- Assist the Station Emergency Director in evaluating changes in security related threats and event classifications.

- Identify any non-routine security procedures and/or contingencies that are in effect or that require a response.
- Expedite ingress and egress of emergency response personnel.
- Coordinate with the Radiation Protection Manager in controlling ingress and egress to and from the Protected Area if radiological concerns are present.
- Provide for access control to the Control Room, TSC and OSC, as appropriate.
- Expedite entry into the Protected Area, as necessary, for the NRC Site Team.
- Act as the TSC liaison with the appropriate NRC Site Team representative.
- Assist the Radiation Protection Manager in determining personnel evacuation routes as necessary.
- Coordinate the evacuation of station non-essential personnel with the appropriate Local Law Enforcement Agencies (LLEAs).

9) Operations Support Center Director OSC

The OSC Director reports to the Maintenance Manager and supervises the activities of OSC personnel. Responsibilities include:

- Assign tasks to OSC Pooled Resources as available:
 - Mechanical Maintenance
 - Electrical/I&C Maintenance
 - Radiation Protection
- Notify the Control Room and TSC prior to dispatch of any OSC teams into the plant.
- Maintain OSC resources including personnel, material, and equipment.
- Maintain accountability for all individuals dispatched from the OSC.
- Conduct periodic briefings on the overall plant status, emergency response activities, and station priorities.
- Form sampling teams.
- Organize in-plant teams to support station priorities.

- Ensure that in-plant team dispatch briefings include expected activities and radiological hazards.

10) OSC Pooled Resources**OSC**

OSC Pooled Resources report to the OSC Director and are assigned from the following station departments:

- Mechanical Maintenance
- Electrical / Instrument and Control
- Radiation Protection

b. Corporate Emergency Response Organization**1) Nuclear Duty Officer (NDO)**

The NDO is the Exelon Nuclear individual who acts as the initial Corporate contact for declared events. Responsibilities include:

a) Actions for all classified events:

Contact the affected station to verify and obtain updated information concerning emergency response actions and event status.

Notify Exelon Nuclear Executives of event.

Provide information on the event to State Duty Officer, if requested.

Notify the on-call Exelon Communications and Public Affairs Representative.

- Prior to EOF activation, review any news releases for accuracy.

b) Actions for Alert classifications and above:

- Complete all actions as listed above.
- Notify American Nuclear Insurers (ANI) prior to being transferred to the EOF.

2) Corporate Emergency Director**EOF****a) The ongoing responsibilities include:**

- Coordinate all Exelon Nuclear activities involved with the emergency response.
- Ensure off-site agency updates are periodically communicated as required/requested.
- Coordinate Exelon Nuclear press releases with the Nuclear Duty Officer and Exelon Communications and Public Affairs.

- Request assistance from non-Exelon Nuclear emergency response organizations, as necessary.
- b) Following assumption of Command and Control, the additional responsibilities assigned to the Corporate Emergency Director include:
 - Assume overall Command and Control of emergency response activities and the non-delegable responsibilities for PAR determination and the notification of offsite authorities.
 - Ensure that Federal, state and local authorities and industry support agencies remain cognizant of the status of the emergency situation. If requested, dispatch informed individuals to offsite governmental Emergency Operation Centers (EOCs).
 - Approve the technical content of Exelon Nuclear press releases prior to their being released to the media.
- Provide information to the State and Local Communicator for completing the state/local notification form.

2) Radiation Protection Manager**EOF**

The Radiation Protection Manager reports to the EOF Director and directs the activities of the EOF Radiation Protection staff. Specific responsibilities include:

- Recommend changes in event classification and PARs based upon effluent releases or dose projections.
- Assist the Corporate Emergency Director in the evaluation of the significance of an emergency with respect to the public.
- Notify the Corporate Emergency Director of meteorological changes that may impact identification of downwind areas.
- Advise the Corporate Emergency Director of protective actions taken by the station for plant personnel.
- Assist the TSC in the planning and coordination of activities associated with the evacuation of non-essential personnel.
- Advise the Corporate Emergency Director on the need for emergency exposures or for issuance of KI to the Field Monitoring Teams or Exelon personnel required to enter the plume.
- Determine the need for and contact Occupational Health/Industrial Safety Services personnel for assistance.

- Monitor plant radiological conditions and advise the TSC Radiation Protection Manager of any adverse trends or potential release pathways that may impact existing event classification.
- Assist in the completion and review of the state/local notification form.
- Maintain cognizance of environmental sampling activities.
- Ensure state authorities are provided information pertaining to Exelon Field Monitoring Team activities and sample results.
- Assist the affected station in the following areas:
 - Planning and coordination of activities associated with the evacuation of non-essential personnel.
 - Acquisition of additional instrumentation, dosimetry, protective equipment and radiological support personnel.
- Assist and interface with the EOF Technical Support Group and the station in the development of plans for plant surveys, sampling, shielding, and special tools in support of waste systems processing and design modification activities.
- Upon request, provide in-plant health physics data to Emergency Public Information personnel.
- Determine needs of the Dose Assessment Coordinator for updates on Field Monitoring Team data and ensure distribution of new data to them in accordance with those needs.
- Upon request, provide environmental data to Emergency Public Information personnel.
- Evaluate and coordinate additional equipment and personnel as necessary from unaffected stations to augment and/or relieve station Field Monitoring Teams.

3) Dose Assessment Coordinator EOF

The Dose Assessment Coordinator reports to the EOF Radiation Protection Manager. Responsibilities include:

- Interpret radiological data and provide PARs based upon dose projections to the EOF Radiation Protection Manager.
- Advise the EOF Radiation Protection Manager of changes in event classification based on effluent releases or dose projections.

- Initiate evaluation of the need for administering KI to Exelon nuclear workers.
- Remain cognizant of forecast and meteorological data and ensure the status is updated periodically.
- Notify the EOF Radiation Protection Manager of meteorological changes that may impact identification of downwind areas.
- Upon request, provide release and dose assessment data to Emergency Public Information personnel.
- Establish and maintain contact with the dispatched Field Monitoring Teams.
- Document environmental data reported by the Field Monitoring Teams.
- Ensure communications are established with the TSC to obtain information on the accident conditions, meteorological conditions and estimates of radioactive material releases.
- Maintain cognizance of Field Monitoring Team exposure. When warranted, initiate an evaluation of the need for administering KI to Exelon nuclear workers.
- Perform dose projections using the Dose Assessment computer models as directed by the Dose Assessment Coordinator.
- Monitor meteorological and plant effluent conditions.
- Evaluate the need for administering KI to Exelon nuclear workers.

4) Computer Specialist EOF

The Computer Specialist reports to the Corporate Emergency Director. Responsibilities include:

- Assist any personnel in logging in, initializing or using a desired computer program.
- Investigate and repair problems encountered with communications equipment and computer equipment/applications.

5) State/Local Communicator EOF

The State/Local Communicator reports to the Corporate Emergency Director. Responsibilities include:

- Communicate and receive information via the Nuclear Accident Reporting System (NARS) circuit or commercial telephone line with appropriate state and county agencies.
- Ensure that the Corporate Emergency Director is made aware of issues and questions raised by offsite agencies and then relay the replies to these requests.
- Prepare state/local notification forms with the assistance of the Corporate Emergency Director and EOF Radiation Protection Manager.

c. Public Information Emergency Response Organization

1) Corporate Spokesperson JIC

The Corporate Spokesperson reports to the Corporate Emergency Director and is responsible for directing the Exelon Emergency Public Information Organization and providing news information to the media. Responsibilities include:

- Maintain command and control of the Joint Information Center.
- Coordinate with Federal, state and local agencies, as well as with other organizations involved in the emergency response, to maintain factual consistency of information to be conveyed to the news media/public.
- Conduct periodic briefings with the news media.
- Interface with the Public Information Director.
- Coordinate and direct responses to media inquiries.
- Ensure that the composition and timeliness of Exelon News Releases are adequate.
- Provide for timely exchange of information between other spokespersons.
- Prepare briefing papers which contain additional detail and background not found in the news releases.
- Provide a follow-up explanation that corrects misinformation as soon as practicable.

2) JIC Director JIC

The JIC Director reports the Corporate Spokesperson to ensure the operability of and to supervise the activities in the JIC. Responsibilities include:

- Maintain cognizance of conditions of the plant and environment, and the actions of Exelon Nuclear and governmental support personnel.

- Coordinate with Federal, state and local agencies, as well as with other organizations involved in the emergency response, to maintain factual consistency of information to be conveyed to the news media/public.
- Participate, as needed, in rumor control activities.
- Ensure that adequate information flow between the EOF and the JIC is coordinated through the Public Information Director.
- Authorize admittance of non-Exelon Nuclear officials to the JIC.
- Provide the drafted news releases to the Corporate Emergency Director for technical review prior to Public Information Director approval.

3) Public Information Director (PID) JIC

When the Emergency Public Information Organization is activated, the Public Information Director reports to the Corporate Spokesperson and is responsible for all emergency event related information intended to be conveyed from Exelon Nuclear to the news media/public. The Public Information Director may perform this function at remote locations. Responsibilities include:

- Provide the Corporate Emergency Director with an overview of the public and media impacts resulting from the Exelon Nuclear and governmental activities.
- Participate with the Corporate Emergency Director regarding information to be released to the public.
- Authorize the issuance of news releases.
- Interface with the Corporate Spokesperson at the JIC.
- Act as a liaison between the ERO and Exelon Nuclear's corporate executives.
- Maintain cognizance of conditions of the plant and environment, and the actions of Exelon Nuclear and governmental support personnel.
- Coordinate information flow between the EOF and the JIC.
- Review and access media coverage of the emergency event.
- Compose draft news releases with assistance from the JIC Director.
- Ensure that the media is being monitored and that Exelon Nuclear personnel review the information detailed or contained in media releases.
- Ensure that rumors are reviewed, documented and responded to by Exelon Nuclear personnel as deemed appropriate.

Until the JIC is fully activated, document and respond to rumors as quickly as possible, through the Exelon Communications and Public Affairs.6. Three Mile Island Emergency Response Organization Block Diagram

ERO staffing tables contained within the Emergency Plan, list the key positions of the ERO. Figures TMI B-1a through TMI B-1d illustrate the overall emergency response organization. Table TMI B-1 specifies the required staffing levels. Section B.5 discusses specific responsibilities and the interrelationships for key positions.

7. Exelon Corporate Emergency Response Organization

The Corporate ERO consists of the EOF Organization and the Emergency Public Information Organization. Personnel staffing these corporate organizations are covered in detail in Section B.5 of this plan.

The Corporate Emergency Response Organization is staffed by Exelon personnel, and operates out of the Emergency Operations Facility (EOF) and the Joint Information Center (JIC). The Corporate ERO is supported by News Media Spokespersons, environmental assessment staff and monitoring teams that provide long-term support to the affected station. Additionally, the Corporate ERO has long term liaison responsibilities with federal, state, and local authorities. These positions are further described in the EPIPs.

The Emergency News Center (ENC) function is responsible for the collection and analysis of event information and status, and development of Company news statements. This information is then communicated to the JIC Corporate Spokesperson. The ENC function may be located at either the EOF or the JIC.

The EOF is activated at an Alert. The EOF Organization is responsible for evaluating, coordinating and directing the overall company activities involved in the emergency response. Within the EOF, the Corporate Emergency Director shall assume Command and Control from the Shift Emergency Director when classification escalates to an Alert or higher, unless the EOF capabilities are limited such that the overall control and responsibility for PARs and offsite notifications cannot be assumed. The JIC is activated within 90 minutes of an Alert. Some JIC functions may continue to be performed by the Exelon Communications organization until transferred to the JIC.

8. Industry/Private Support Organizations

Exelon Nuclear retains contractors to provide supporting services to nuclear generating stations. A contract/purchase order with a private contractor is acceptable in lieu of an agreement letter for the specified duration of the contract. Among services currently provided are the following:

- a. DELETED

- b. American Nuclear Insurers (ANI): In early 1982, ANI issued Bulletin #5B (1981) "Accident Notification Procedures for Liability Insurers" which provides revised criteria for the notification of the Pools in the event of a nuclear emergency at one of the liability insured nuclear power reactor sites. This revision brings the ANI/MAELU (Mutual Atomic Energy Liability Underwriters) notification criteria into alignment with the standard emergency classification system adopted by the nuclear industry. This document also identifies a suitable channel for follow-up communication by ANI after initial notification.
- ANI/MAELU Emergency Assistance: In the event of an extraordinary nuclear occurrence (as defined in the Price-Anderson Law) ANI and MAELU (the insurance pools) have plans prepared to provide prompt emergency funding to affected members of the public.
 - ANI/MAELU Emergency Assistance (Claims Handling Procedures): The pools' emergency assistance arrangements contemplate the mobilization and dispatch of emergency claims teams to directly dispense emergency assistance funds to affected members of the public.

The pools should be notified in the event of a nuclear emergency requiring notification of state or Federal governmental agencies, or if the insured believes that offsite persons may be affected and financial assistance of a nature discussed may be required. In these instances, ANI expects notification as soon as possible after the initiation of the emergency. Exelon notification to the pools in the event of an Alert, Site Area Emergency, or General Emergency will be in accordance with the Exelon Nuclear Reportability Manual.

Even if it appears to be remote that offsite persons will be affected, the pools should be notified in order that response plans can be initiated to the point of alerting teams of adjusters to stand by. Response activity can be discontinued if it proves less severe and does not require pool response.

All nuclear occurrences of an emergency or non-emergency nature that fall under the nuclear liability policy should be reported formally in writing to ANI by the Exelon Nuclear Insurance Administrator.

- Emergency Notification and Follow-up Procedures: Pre-established lines of communication exist between each utility and ANI in order to exchange all required information during a developing emergency situation.

ANI maintains 24-hour coverage of an emergency notification number. During normal office hours (8:00 am - 4:00 pm) their number will be answered by the receptionist who will transfer an incoming emergency call to an appropriate individual in the office. Outside of normal office hours, this telephone line is covered by an answering service. The answering service will intercept the call and obtain the name, affiliation and telephone number of the caller. They will then notify a designated ANI staff member who will in turn call back the utility to obtain appropriate information regarding the nuclear accident.

In order that follow-up information is available to the Insurance Pool Exelon Nuclear has established the Corporate Emergency Director or their designee as a Point of Contact that ANI personnel may use to update themselves regarding the status of the emergency.

NOTE: For the below listed support services, the specific contractors may change but the functions are maintained.

c. Environmental Monitoring Services:

Environmental Inc.: Environmental Inc. provides emergency Radiological Environmental Monitoring Program (REMP) services. These services include:

- Sample collection
- Handling, packaging and storage of test samples
- Sample shipment
- Chain of Custody

The Environmental Inc. Midwest Laboratory in Northbrook, Illinois analyzes environmental samples for their radioactivity content and reports results to Exelon Nuclear. The REMP sample collection activities at certain Mid-Atlantic and Northeast stations have been subcontracted to Normandeau and Associates or Exelon Industrial Services (also referred to as Fort Smallwood) while others are performed by station personnel.

- d. Teledyne Brown Engineering: Teledyne Brown Engineering provides bioassay analysis and radiochemical analysis services.
- e. Department Of Energy (DOE) Radiation Emergency Assistance Center/Training Site (REAC/TS): DOE REAC/TS provides services of medical and health physics support. REAC/TS advises on the health physics aspects of situations requiring medical assistance.
- f. Murray and Trettel, Inc.: Murray and Trettel, Inc. provide meteorological monitoring services, including weather forecasts. Murray and Trettel maintain all Exelon Nuclear station meteorological facilities. Murray and Trettel have computer capability to poll remotely the meteorological facilities to ascertain local conditions and to detect instrument failure.
- g. Landauer, Inc.: Landauer provides extremity dosimetry services. In an emergency Landauer would provide additional dosimetry to the affected nuclear station and EOF, if needed.

- h. Manufacturer Design and Engineering Support: Under established contracts, the following will provide available engineering expertise, specialized equipment and other services identified as needed and deemed appropriate to assist in an emergency situation:

- General Electric (GE) Nuclear Energy
- Westinghouse Electric Company

9. Supplemental Emergency Assistance to the ERO

Agreements are maintained with outside support agencies who do not take part in the organizational control of the emergency that provide assistance when called on during an emergency or during the recovery phase. These agreements identify the emergency measures to be provided, the mutually accepted criteria for implementation, and the arrangements for exchange of information. These support agencies (named in the Station Annex) provide services of:

- a. Law enforcement;
- b. Fire protection;
- c. Ambulance services;
- d. Medical and hospital support

Support groups providing transportation and treatment of injured station personnel are described in Section L of this plan.

TABLE TMI B-1: Minimum Staffing Requirements for TMI Station

Functional Area	Major Tasks	Emergency Positions	Minimum Staffing			
			Shift Size	^(a) 60 Minute Augmentation	90-Minute Augmentation or On-Call	
1. Plant Operations/Safe Shutdown and Assessment of Operational Aspects	Control Room Staff	Shift Manager (Certified Fuel Handler) Shift Supervisor (CFH) Non-Certified Operator	1 1 1			
2. Emergency Direction and Control	Command and Control / Emergency Operations	Shift Emergency Director (CR) Station Emergency Director (TSC) Corporate Emergency Director (EOF)	1 ^(b)	1 1		
3. Notification & Communication	Emergency Communications Plant Status ^(m) In-Plant Team Control ^(m) Technical Activities ^(m) Governmental ^(l)	Plant Shift Personnel (CR) State/Local Communicator ENS Communicator	1	1 (EOF) 1 (TSC)		
4. Radiological Accident Assessment and Support of Operational Accident Assessment	Offsite Dose Assessment Offsite Surveys Onsite Surveys In-plant Surveys Chemistry RP Supervisory	Plant Personnel (CR) Dose Assessment Coordinator (EOF) Field Team Personnel ^(h) Field Team Personnel RP Technicians or equivalent Chemistry Personnel Radiation Protection Manager (TSC) Radiation Protection Manager (EOF)	1 ^(b) 2 (b)	1 2 1 1 1	2 ⁽ⁿ⁾	

TABLE TMI B-1: Minimum Staffing Requirements for TMI Station (Cont'd)

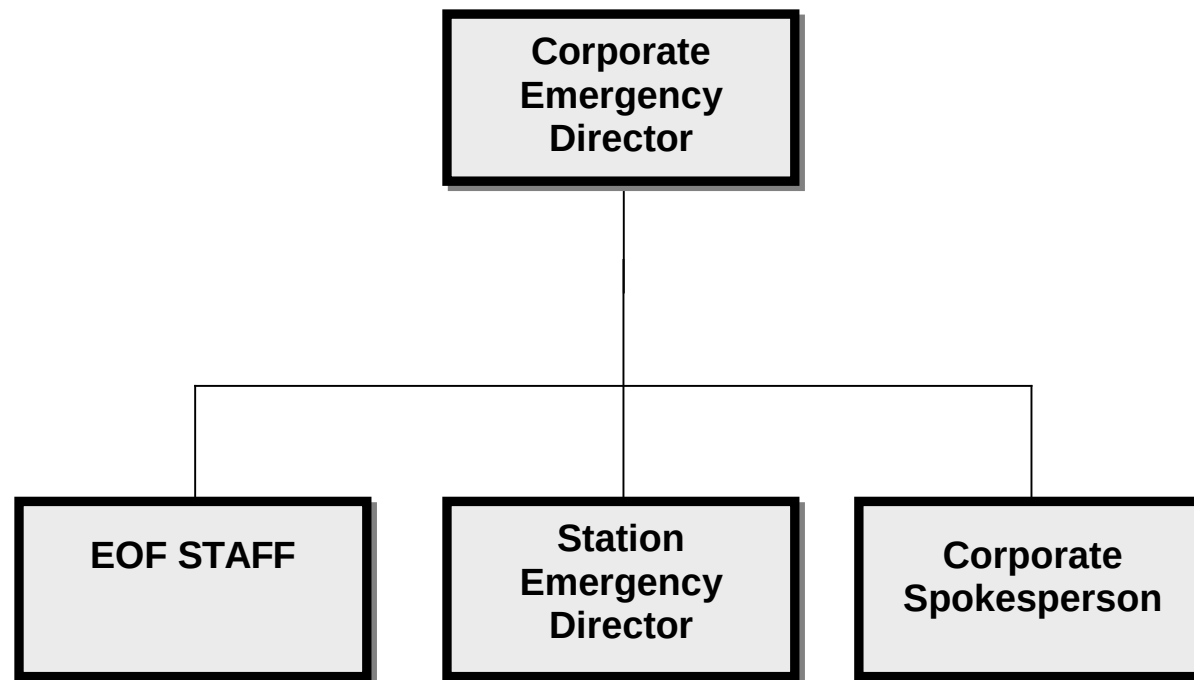
Functional Area	Major Tasks	Emergency Positions	Minimum Staffing			
			Shift Size	(a) 60 Minute Augmentation	90-Minute Augmentation or On-Call	
5. Plant System Engineering, Repair and Corrective Actions	Technical Support	Technical Manager (TSC) Operations Manager (TSC)		1 1		
	Repair and Corrective Actions	Mechanical Maintenance (OSC)	1 ^(b)	1 ^(k)		
		Electrical Maintenance C (OSC)	1 ^(b)	1 ^(k)		
		Maintenance Manager (TSC) OSC Director/Repair Team Lead (OSC)	1 ^(b)	1 1		
	Accident Analysis ^(l)					
6. In-Plant Protective Actions	Radiation Protection	RP Technicians, or equivalent	2 ^(b)	1		
7. Fire Fighting	--	Fire Brigade ^(e)	Per fire plan			
8. First Aid and Rescue Operations	--	Plant Personnel	2 ^(b)			
9. Site Access Control and Personnel Accountability	Security & Accountability	Security Team Personnel Security Coordinator ^(j) (TSC)	(f)	1		
10. Resource Allocation and Administration	Logistics / Administration	Computer Specialist (EOF)			1 ⁽ⁿ⁾	

TABLE TMI B-1: Minimum Staffing Requirements for TMI Station (Cont'd)

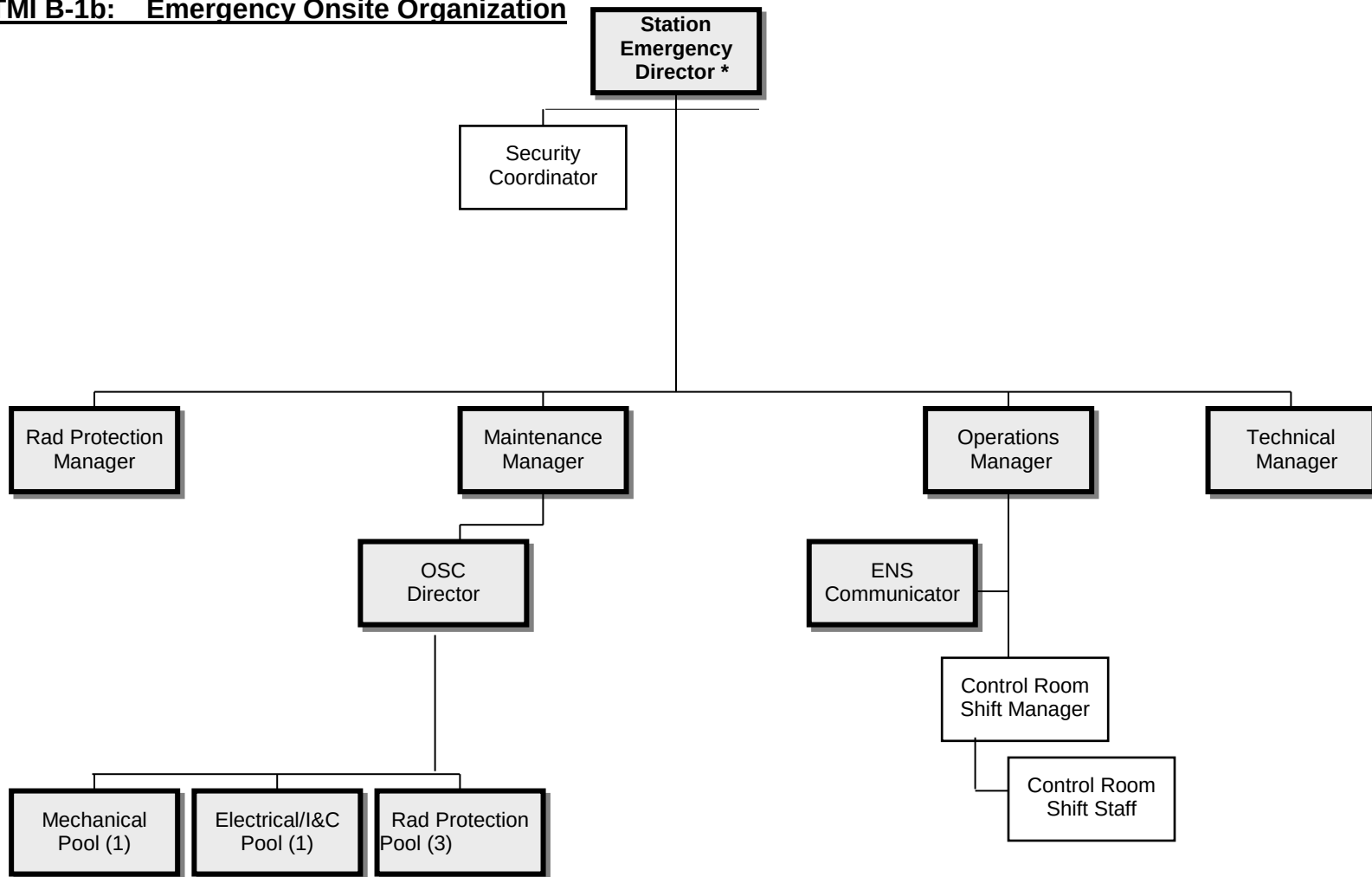
Functional Area	Major Tasks	Emergency Positions	Minimum Staffing			
			Shift Size	(a) 60 Minute Augmentation	90-Minute Augmentation or On-Call	
11. Public Information	Media Interface	Corporate Spokesperson (JIC)			1 ^(g)	
	Information Development	Public Information Director (JIC)			1 ^(g)	
	Media Monitoring and Rumor Control ^(l)					
	Facility Operation and Control	JIC Director (JIC)			1 ^(g)	
TOTAL (Non-Collateral):			11 (9) ^(e)	18	64	

Legend:

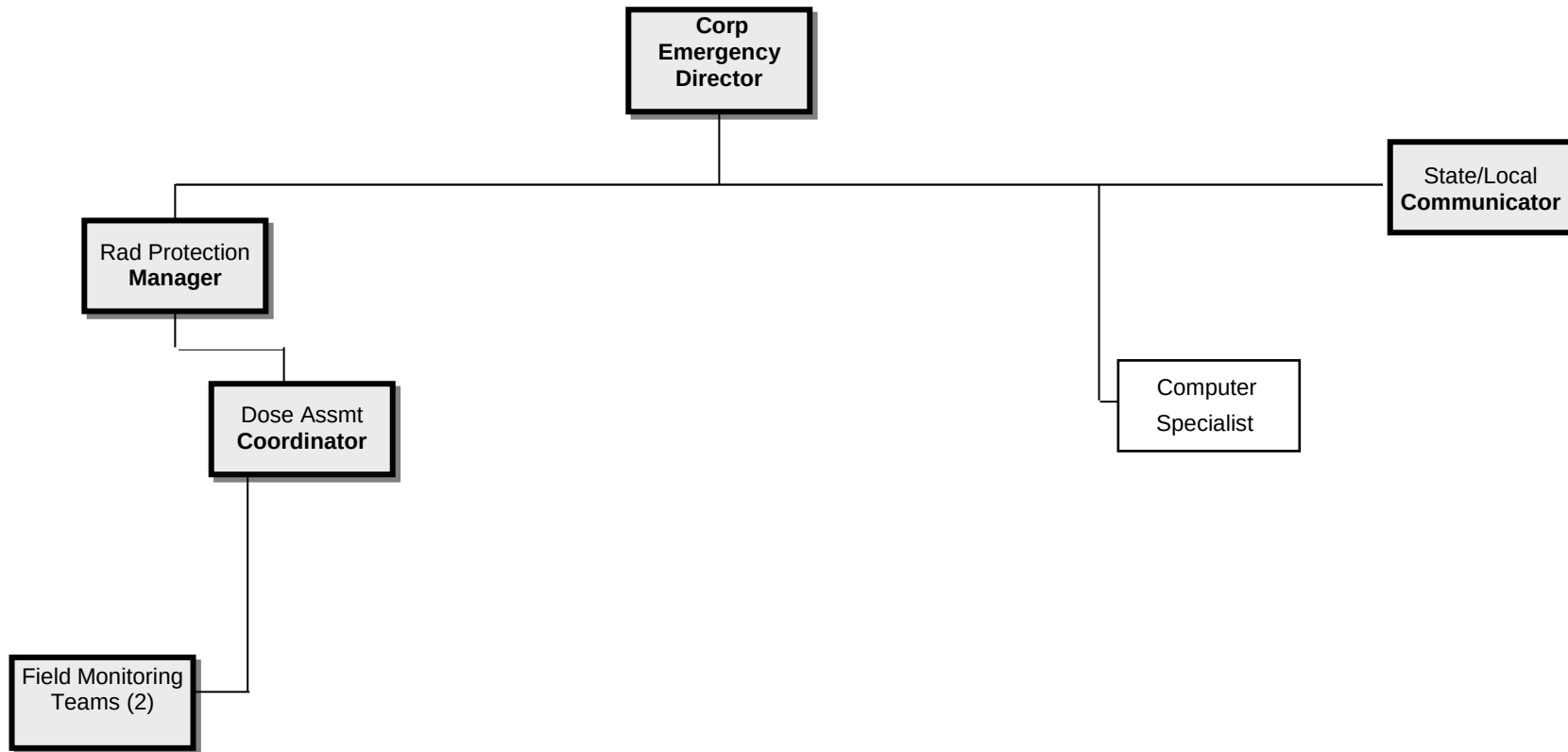
- (a) Response time is based on optimum travel conditions.
- (b) May be provided by personnel assigned other functions. Personnel can fulfill multiple functions.
- (c) Deleted
- (d) Deleted
- (e) The Fire Brigade will be staffed per the TMI Fire Protection Plan. Upon a successful evaluation and approval of an incipient Fire Brigade in accordance with 10CFR 50.48(f), the Fire Brigade compliment will be reduced to three (3) persons. This is anticipated to occur sometime following shutdown. Until the 50.48(f) Fire Brigade evaluation is completed, the Fire Brigade will consist of five (5) persons.
- (f) Function performed by on-shift security personnel.
- (g) The following Emergency Public Information Organization personnel will be designated "minimum staffing" (on-call) positions, but are not subject to the 60-minute response time requirement: Corporate Spokesperson, Public Information Director and JIC Director will be staffed at 90-minutes from the declaration of an Alert of higher.
- (h) Each Field Monitoring Team consists of a qualified Lead and Driver, trained in plume monitoring and air sample collection, as appropriate to designated task. Qualified on-shift personnel may also be mobilized, if required based on event, to support initial field monitoring requirements.
- (i) Deleted
- (j) TSC Security Coordinator position will be staffed by TMI Security personnel.
- (k) Within 60 Minutes, TMI is committed to having one (1) Mechanical Maintenance Technician and one (1) Electrical Maintenance Technician onsite and assigned to the OSC. Technicians who are already on shift may satisfy this requirement.
- (l) Positions controlled by Emergency Preparedness Implementing Procedures (EPIPs).
- (m) Positions eliminated due to TMI being in a permanent defueled condition.
- (n) These positions are 90-minute responders, but are not required for facility activation.

Figure TMI B-1a: Exelon Overall ERO Command Structure

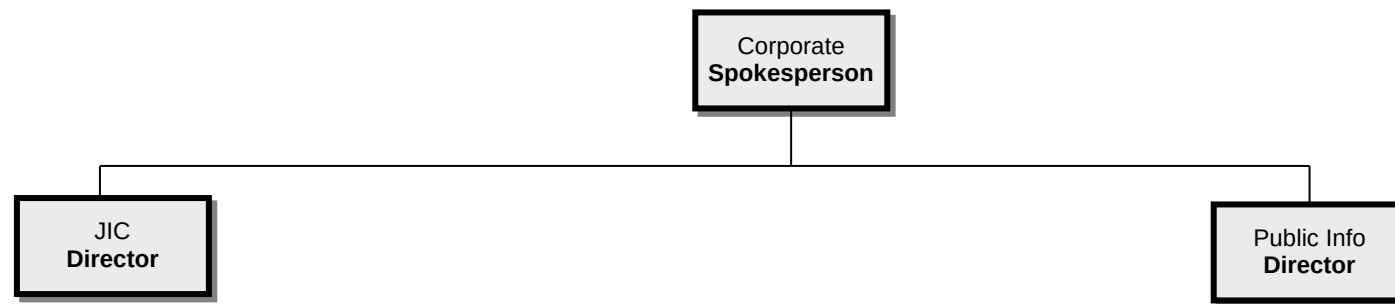
Shaded/Bold Boxes indicate minimum staffing positions.

Figure TMI B-1b: Emergency Onsite Organization

Shaded/Bold Boxes indicate minimum staffing positions.

Figure TMI B-1c: Emergency Offsite Organization

Shaded/Bolded Boxes indicate minimum staffing positions.

Figure TMI B-1d: Emergency Public Information Organization

Shaded/Bolded Boxes indicate minimum staffing positions.

Section C: Emergency Response Support and Resources

This section describes the provisions for requesting and effectively utilizing support resources and for accommodating offsite officials at the Exelon Nuclear emergency response facilities.

1. Federal Response Support and Resources

Assistance is available from federal agencies through the National Response Framework (NRF). The lead federal agency who provides direct assistance to Exelon during an emergency is the Nuclear Regulatory Commission (NRC). Other federal agencies, such as the Federal Emergency Management Agency (FEMA) and the Department of Energy (DOE), provide assistance to the state through implementation of the NRF.

- a. Sections A and B of this plan identify the specific individuals by title who are authorized to request federal assistance.
- b. Federal agencies that may provide assistance in direct support of Exelon Nuclear in the event of an accident are identified in Section A of this plan. If needed, federal resources are made available to Exelon Nuclear in an expeditious and timely manner.
- c. Each emergency response facility has the equipment and communications capability necessary for a continuous high level of response, interaction, and communication among key personnel during emergency conditions. The emergency facilities are able to accommodate federal representatives with working areas provided for their use. Accommodations for the expected NRC site response team assume the following approximate numbers for each facility:

	Initial Activation (minimum)	Full Activation
EOF	9	16
TSC	3	5
CR	1	1
JIC	1	10

The Exelon Emergency Response Organization will provide senior management support for site response teams and communications over a Management Counterpart Link to federal response headquarters.

2. Liaisons

- a. The NRC, FEMA, and the state may dispatch representatives to the EOF where accommodations have been provided.
- b. At the Alert level and above, Exelon Nuclear personnel may be assigned as liaisons to the requesting state and/or county Emergency Operations Center (EOC). These representatives act as technical liaisons to interpret emergency action levels and protective action recommendations made by Exelon.

3. Radiological Laboratories

Support of the radiation monitoring and analysis effort is provided by an onsite laboratory. The onsite laboratory is the central point for receipt and analysis of all onsite samples and includes equipment for chemical analyses and for the analysis of radioactivity. Additional facilities for counting and analyzing samples can be provided by the other Exelon Nuclear generating stations, state, federal or contracted laboratory services. These laboratories can act as backup facilities in the event that the plant's counting room and laboratory become unusable or the offsite radiological monitoring and environmental sampling operation exceeds the capacity or capability of the station laboratory during an emergency. Additional outside analytical assistance may be requested from contracted vendors or state and federal agencies. The equipment and analytical capabilities for Three Mile Island laboratories are listed in the Station Annex. The state, federal and contract laboratories maintain independent evaluation and certification processes and have the capability of quantitative analysis of terrestrial, marine and air samples.

4. Other Assistance

Any unaffected Exelon Nuclear Generating station is available to provide certain types of assistance and support, including engineering, design, consultation, whole body counting, and dosimetry evaluation and equipment. Additional facilities, organizations, and individuals, as listed in the Emergency Response Facilities (ERF) Telephone Directory, are available and may be used in support of emergency response. In addition, American Nuclear Insurers (ANI) provides insurance to cover Exelon legal liability up to the limits imposed by the Price-Anderson Act, for bodily injury and/or property damage caused by the nuclear energy hazard resulting from an incident at the plant. Written agreements which describe the level of assistance and resources provided to Exelon Nuclear by external sources are included in Appendix 3 as applicable.

Section D: Emergency Classification System

This section describes the classification and emergency action level scheme used to determine the minimum response to an abnormal event at Three Mile Island. This scheme is based on plant systems, effluent parameters, and operating procedures. The initial response of federal, state, and county agencies is dependent upon information provided by the ERO. Exelon works closely with the state and county agencies to ensure consistency in classification schemes and procedural interfaces.

1. Emergency Classification System

The E-Plan provides for classification of emergencies into five (5) categories or conditions, covering the postulated spectrum of emergency situations. The first four (4) categories: Notification of Unusual Event (referred to as Unusual Event), Alert, Site Area Emergency, and General Emergency, are characterized by Emergency Action Levels (EALs) or event initiating conditions and address emergencies of increasing severity. The fifth, the Recovery classification, is unique in that it may be viewed as a phase of the emergency requiring specific criteria to be met and/or considered prior to its declaration. Recovery is that period when the emergency phase is over and activities are in progress to return the situation to a normal state (acceptable condition).

- a. Unusual Event - Events are in process or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

This is the least severe of the four (4) levels. The purpose of this classification is to bring response personnel and offsite agencies to a state of readiness in the event the situation degrades and to provide systematic handling of information and decision making. The Shift Manager, as Shift Emergency Director will classify an Unusual Event.

Required actions at this classification include:

- Notifications to station management and the NDO.
- Notification, within 15 minutes, of the state and local communities.
- At the discretion of the Emergency Director, station management or the Nuclear Duty Officer (NDO), full or selective staffing of the TSC, OSC, and EOF may be initiated.
- Notification of the NRC immediately after notification of the appropriate State and local agencies and not later than 60 minutes of classification.
- Assessment of the situation and response as necessary, which may include escalating to a higher classification if conditions warrant.

- When the event is terminated, close-out is performed over communication links to offsite authorities participating in the response (i.e., NRC, state, county), followed by formal transmission of a state/local notification form within 24 hours.
- b. Alert - Events are in process or have occurred which indicate an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life-threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of EPA Protective Action Guideline exposure levels.

The purpose of this classification is to ensure that emergency response personnel are readily available and to provide offsite authorities with current status information. An Alert will be classified as the initiating event or as escalation from an Unusual Event. In either case, the classification will most likely be made by the Shift Manager (Shift Emergency Director) prior to the transfer of Command and Control.

Required actions at this classification include:

- Notifications to station management and the NDO.
- Notification, within 15 minutes, of the state and local communities. The EOF will assume state update responsibilities.
- Activation of the TSC, OSC, EOF, and the JIC organizations.
- Transfer of Command and Control.
- Notification of the NRC immediately after notification of the appropriate State and local agencies and not later than 60 minutes of classification.
- Notification of ANI.
- Assessment of the situation and response as necessary, which may include escalating to a higher classification if conditions warrant.
- On-site and off-site Field Monitoring Teams are sent to staging areas or dispatched to monitor for releases of radiation to the environment.
- Keeping offsite authorities informed of plant status by providing periodic updates to include meteorological and radiological data.
- When the event is terminated, notification is performed over communication links followed by an Initial Incident Report to offsite authorities participating in the response (i.e., NRC, state, county) within 8 hours.

- c. Site Area Emergency - Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts; 1) toward site personnel or equipment that could lead to the likely failure of or; 2) that prevent effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the site boundary.

The purpose of this classification, in addition to those of the Alert level, is to ensure that all emergency response centers are staffed and provisions are made for information updates to the public through offsite authorities and the news media. The classification will most likely be made by the Station Emergency Director following activation of the TSC.

Required actions at this classification, in addition to those listed under the Alert level, include:

- If not previously performed, Assembly/Accountability shall be performed and Site Evacuation of non-essential personnel shall be initiated.
- Keeping offsite authorities informed of plant status by providing periodic updates to include meteorological data and projected or actual doses for any releases that have occurred.

- d. General Emergency - Event(s) are in process or have occurred which involve actual or imminent substantial fuel degradation or melting or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

The purpose of this classification, in addition to those of the Site Area Emergency level, is to initiate predetermined protective actions for the public and provide continuous assessment of information from monitoring groups. The classification will most likely be made by the Station Emergency Director following activation of the TSC.

Required actions at this classification, in addition to those listed under the Alert and Site Area Emergency, include:

- A Protective Action Recommendation will be determined.
- Assessment of the situation and response as necessary.

- e. Recovery: That period when the emergency phase is over and activities are being taken to return the situation to a normal state (acceptable condition). The plant is under control and no potential for further degradation to the plant or the environment is believed to exist.

Recovery will be classified by the Station Emergency Director after obtaining authorization from the Corporate Emergency Director.

Required actions at this classification include:

- The affected state(s) and the NRC should be consulted prior to entry into Recovery.
 - Notifications will be made to station management, the NDO, state(s) and NRC.
 - A Recovery organization will be established to manage repairs to return the Unit to an acceptable condition, and support environmental monitoring activities as requested in coordination with Federal and state efforts.
 - ANI is notified of Recovery classification.
- f. Classification Downgrading: Exelon Nuclear policy is that emergency classifications shall not be downgraded to a lower classification. Once declared, the event shall remain in effect until no Classification is warranted or until such time as conditions warrant classification to Recovery.
- g. Guidance for Termination of an Emergency: The purpose of terminating an emergency is to provide an orderly turnover of plant control from the Emergency Response Organizations to the normal Exelon Nuclear plant organization. Termination of the emergency is authorized by the Emergency Director in Command and Control. The considerations provided in the Recovery/Termination Checklist in the emergency implementing procedures must be performed prior to exiting the emergency event. Consultation with governmental agencies and other parties should be conducted prior to termination of an event classified as Site Area or General Emergency. Notifications shall be transmitted to appropriate agencies to terminate an event.
- h. Station Nuclear Security Plan: Three Mile Island has a Security Plan that complies with the requirements of 10 CFR 73. The interface between the E-Plan and the Security Plan is one of parallel operation. The plans are compatible. The E-Plan response measures, once initiated, are executed in parallel with measures taken in accordance with the Security Plan.

Threats made to Three Mile Island are evaluated in accordance with established threat assessment procedures and the Security Plan. The Security Plan, Appendix C, Contingency Events, identifies situations that could be initiating conditions for EAL classifications. Contingency events include bomb threats, attack threats, civil disturbances, protected area intrusions, loss of guard/post contact, vital area intrusions, bomb devices discovered, loss of guard force, hostages, extortion, fire/explosions, internal disturbances, security communications failure, and obvious attempts of tampering. The Security Plan provides guidance for decisions and actions to be taken for each security contingency event. As guidance, the Security Plan allows for differing responses depending upon the assessment of the actual situation within each contingency event classification.

The assessment of any security contingency event and the decision to initiate, or not to implement the E-Plan, will be the responsibility of the Shift or Station Emergency Director. All identified security contingency events have the potential of being assessed as initiating conditions for a radiological emergency declaration.

Determination of a credible security threat may require the staffing of emergency response facilities based on the classification of an Unusual Event per the Emergency Action Levels (EALs).

2. Emergency Action Level Technical Bases

Addendum 3 to the Station Annex includes Site Specific Emergency Action Levels (EALs) consistent with the general class descriptions and provided in NEI guidance documentation in accordance with Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors." Where possible, these EALs will be related to plant instrumentation readings.

Emergency classifications are characterized by Emergency Action Levels (EALs). The Threshold Values are referenced whenever an Initiating Condition is reached. An Initiating Condition is one of a predetermined subset of unit conditions where either the potential exists for a radiological emergency, or such an emergency has occurred. Defined in this manner, an Initiating Condition is an emergency condition, which sets it apart from the broad class of conditions that may or may not have the potential to escalate into a radiological emergency. Initiating Conditions are arranged in one of the Recognition Categories.

EALs are for unplanned events. A planned evolution involves preplanning to address the limitations imposed by the condition, the performance of required surveillance testing, and the implementation of specific controls prior to knowingly entering the condition. Planned evolutions to test, manipulate, repair, perform maintenance or modifications to systems and equipment that result in an EAL Threshold Value being met or exceeded are not subject to classification and activation requirements as long as the evolution proceeds as planned. However, these conditions may be subject to the reporting requirements of 10 CFR 50.72.

An emergency is classified after assessing abnormal plant conditions and comparing them to EAL Threshold Values for the appropriate Initiating Conditions. Matrix tables organized by recognition categories are used to facilitate the comparison.

All recognition categories should be reviewed for applicability prior to classification. The initiating conditions are coded with a letter and/or number designator. All initiating conditions, which describe the severity of a common condition (series), have the same initial designator.

3. Timely Classification of Events

Classification of an emergency condition occurs within 15 minutes after the availability of indications from plant instrumentation, plant alarms, computer displays, or incoming verbal reports that an EAL has been exceeded and, is then promptly made upon identification of the appropriate EAL. The 15-minute period encompasses all assessment, classification, and declaration actions associated with making an emergency declaration from the first availability of a plant indication or receipt of a report up to and including the declaration of the emergency.

Validation or confirmation of plant indications or reports of the condition are to be accomplished within the 15-minute period as part of the assessment. Since this validation or confirmation is being performed to determine the validity of an alarm, indication, or report, the 15-minute period starts with the availability of the alarm, indication, or report to any qualified EAL assessor, and not the completion of the validation or confirmation, because the former is the time that the information was first available.

A qualified EAL assessor means any member of the plant staff who, by training and experience, is qualified to assess the indications or reports for validity and to compare the same to the EALs. A qualified EAL assessor may be, but need not be, a licensed operator or member of the ERO. Qualified EAL assessors may be in the MCR or in another facility where emergency declarations are performed. A qualified EAL assessor does not include personnel such as chemists, radiation protection technicians, craft personnel, security personnel, and others whose positions require they report, rather than assess, abnormal conditions to the MCR.

The 15-minute criterion ends as soon it is determined that an EAL has been exceeded and upon identification of the appropriate Emergency Classification Level (ECL) and when the Emergency Director makes the emergency declaration. The emergency condition should be declared as soon as possible following the identification of the appropriate ECL. As used here, "promptly" means the next available opportunity unimpeded by activities not related to the emergency declaration, unless such activities are necessary for protecting health and safety.

The 15-minute criterion is not to be construed as a grace period in which attempts to restore plant conditions are taken to avoid declaring an EAL that has already been exceeded. This statement does not preclude taking actions to correct or mitigate an off-normal condition, but once an EAL has been recognized as being exceeded, the emergency declaration shall be made promptly without waiting for the 15-minute period to elapse. The 15-minute criterion shall not prevent the implementation of response actions deemed necessary to protect public health and safety provided that any delay in the declaration would not deny the State and local authorities the opportunity to implement measures necessary to protect the public health and safety.

For EAL thresholds that specify duration of the condition, the emergency declaration process runs concurrently with the specified threshold duration. Once the condition has existed for the duration specified in the EAL or it is determined that the duration time will likely be exceeded, no further assessment is necessary—the EAL has been exceeded.

4. Offsite Classification Systems

Exelon Nuclear works with the state to ensure consistency between classification schemes. The content of the EALs is reviewed with the state and county authorities on an annual basis.

5. Offsite Emergency Procedures

Exelon Nuclear works with the state and county authorities to ensure that procedures are in place that provide for emergency actions to be taken which are consistent with the protective actions recommended by Exelon accounting for local offsite conditions that exist at the time of the emergency.

Section E: Notification Methods and Procedures

This section describes the notification of state and county response organizations and Exelon emergency response personnel. It outlines the content of initial and follow-up messages to response organizations within the Plume Exposure Pathway Emergency Planning Zone (EPZ).

1. Bases for Emergency Response Organization Notification

Exelon Nuclear, in cooperation with state and county authorities, has established mutually agreeable methods and procedures for notification of offsite response organizations consistent with the emergency classification and action level scheme. Notifications to offsite agencies include a means of verification or authentication such as the use of dedicated communications networks, verification code words, or providing call back verification phone numbers.

Notification for Transportation Accidents: A Transportation Accident is defined in 49 CFR 171.15 and 49 CFR 171.16. If a Transportation Accident involving material in the custody of an Exelon facility occurs, Exelon Nuclear will notify the appropriate internal and offsite agencies in accordance with the Exelon Nuclear Reportability Manual.

2. Notification and Mobilization of Emergency Response Personnel

Emergency implementing procedures are established for notification and mobilization of emergency response personnel as follows:

- a. Onsite: When an emergency is declared, reclassified, or terminated an announcement is made (over the plant public address system or by other means) that includes the emergency classification declared and response actions to be taken by site personnel.

At the Unusual Event classification, select ERO augmentation personnel are notified and requested to remain available to respond. At an Alert classification or higher ERO augmentation personnel are notified for activation of the TSC, OSC, EOF, and JIC using the ERO Notification System.

- b. Offsite: Notifications are promptly made to offsite emergency response organizations as follows:

- 1) State/Local Agencies: A notification shall be made within fifteen (15) minutes of:

- The initial emergency classification.
- Classification escalation.
- The issuance of or change to a Protective Action Recommendation (PAR) for the general public.

- Changes in radiological release status, occurring outside of an event classification or PAR notification, based on an agreement with the state(s).

The emergency warning points are simultaneously notified using the Nuclear Accident Reporting System (NARS), or a commercial telephone line as backup.

A notification will also be initiated to cognizant state/local government agencies as soon as possible but within one hour of the termination of an event classification, or entry into Recovery Phase.

- 2) Nuclear Regulatory Commission (NRC): An event will be reported to the NRC Operations Center immediately after notification of the appropriate state or local agencies but not later than one (1) hour after the time of initial classification, escalation, termination or entry into the Recovery Phase. The NRC is notified by a dedicated telephone system called the Emergency Notification System (ENS). If the ENS is inoperative, the required notification is made via commercial telephone service, other dedicated telephone service, or any other method that shall ensure that a report is made as soon as practical. An NRC Event Notification Worksheet should be utilized to transmit initial information to the NRC. If a continuous communication is requested and established, a log is used in lieu of the ENS Worksheet.

Specific requirements for the notifications to the NRC for classified emergency events are detailed in 10 CFR 50.72 with guidance provided in the Exelon Reportability Manual.

Mobilization of federal, state, and county response organizations is performed in accordance with their applicable emergency plan and procedures. At a minimum, mobilization of federal response organizations and activation of state and county EOCs is expected to occur at the declaration of a Site Area Emergency.

The state and county authorities are responsible for the process of notification of the general public.

- c. Support Organizations: When an emergency is initially classified, escalated or terminated, notifications are promptly made to the following support organizations:
 - Medical, rescue, and fire fighting support services are notified for assistance as the situation dictates.
 - The American Nuclear Insurers (ANI) are notified at an Alert or higher classification with requests for assistance as necessary.
 - Vendor and contractor support services are notified for assistance as the situation dictates.

3. Initial Notification Messages

Exelon Nuclear, in conjunction with state and county authorities, has established the contents of the initial notification message form transmitted during a classified emergency. The contents of the form include, as a minimum:

- Designation ("This is a Drill" or "Actual Event").
- Identity of site.
- Event classification.
- EAL number (as agreed upon with state authorities).
- Non-technical event description (as agreed upon with state authorities).
- Date and time of declaration (or entry into Recovery or Termination).
- Whether a release is taking place (Note: "Release" means a radiological release attributable to the emergency event.)
- Wind direction and speed.
- Whether offsite protective measures may be necessary.
- Potentially affected Subareas (or Sectors as applicable) when a General Emergency is declared.

Notification approval, transmittal date and time, and offsite agencies contacted are recorded either on the notification form or in an event logbook.

4. Follow-up Messages

For all emergency classifications, update messages to state authorities will be provided at the time of the notification on a prearranged frequency. The facility in Command and Control is responsible for ensuring that the updates are completed. State updates contain the prearranged information plus any additional information requested at the time of the notification.

Follow-up notifications are provided to the NRC Operations Center as soon as possible, but not later than one (1) hour after significant new information is available involving:

- a. The results of evaluations or assessments of plant conditions.
- b. The effectiveness of response or protective measures taken.
- c. Information related to plant behavior that is not understood.

If requested by the NRC, an open, continuous communications channel will be maintained with the NRC Operations Center over the Emergency Notification System (ENS) and/or Health Physics Network (HPN) Circuits.

5. State and County Information Dissemination

The state and county emergency response plans describe procedures for state and county officials to make a public notification decision promptly (within about 15 minutes) on being informed by the plant of an emergency. The system for disseminating information to the public includes notification by pre-scripted messages through appropriate broadcast media such as the Emergency Alert System (EAS).

6. Notification of the Public

The capability exists for the prompt notification of the general public within the Plume Exposure Pathway Emergency Planning Zones (EPZs) for Three Mile Island covered under this plan.

This notification capability consists of two principal elements: (1) the Alert and Notification Systems (ANS) and (2) the Emergency Alerting System (EAS) radio stations.

- The Alert and Notification System (ANS) consists of fixed sirens used as a primary means of notification. Activation of the ANS sirens by the civil authorities will alert the public to turn on their radios to a local EAS radio station for detailed information on the emergency situation. A backup means of notification is provided and is described within the Station Annex.
- The Emergency Alerting System (EAS) is a network of local radio stations prepared to transmit or relay emergency information and instructions from the civil authorities to the general public.

The ANS is operated by local governmental agencies and maintained by Exelon Nuclear. To assure the ANS is maintained in an operational readiness posture, the local agencies have agreed to test the system (by sounding the sirens) on a periodic basis that meets or exceeds FEMA guidance and to report inoperable equipment to EP-designated maintenance personnel. The goal of the testing and maintenance program is to identify inoperable equipment in a timely manner and to restore equipment to a functional status commensurate with FEMA operability requirements as referenced in FEMA-REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants" Section E.6.2.1. In addition to this routine test and repair program, preventive maintenance of the ANS will be performed on an annual basis.

A more site-specific description of the various prompt public notification systems is presented in the Station Annex to the E-Plan. The activation of the ANS sirens, deployment of emergency service vehicles and operation of the Emergency Alerting System is discussed in detail in the state specific response plans.

7. Messages to the Public

The respective States have developed EAS messages for the public consistent with the classification scheme. These draft messages are included as part of the States' Emergency Plan and contain instructions with regard to specific protective actions to be taken by occupants and visitors of affected areas. Messages may include instructions such as: take shelter and go indoors, close windows and doors, turn off ventilation systems; directions given for evacuation; directions to stay tuned to specific stations for further information, ad-hoc respiratory protection, (e.g. handkerchief over mouth, etc.). Exelon will provide support for the content of these messages when requested. The States control the distribution of radioprotective drugs to the general public.

Section F: Emergency Communications

This section describes the provisions utilized for prompt communications among principal emergency response organizations, communications with the ERO and communications with the general public.

1. Communications/Notifications

Exelon Nuclear has extensive and reliable communication systems installed at Three Mile Island and Corporate Headquarters. Examples of the communications network include systems such as normal and dedicated telephone lines on landlines, microwave and fiber-optic voice channels, cell phones, satellite phones, mobile radio units, handi-talkies and computer peripherals. This network provides:

- Voice communication through normal telephone, dedicated line and automatic ring-down between selected facilities, conference call capability, speaker phones, and operator assistance where required.
- Communications between selected Exelon vehicles and appropriate fixed locations, as well as with state mobile units and fixed locations.
- Facsimile, network, and modem transmission.

Figure F-1 depicts the initial notification paths and the organizational titles from the Exelon Nuclear Emergency Response Facilities (ERFs) to federal, state and local emergency response organizations, and industry support agencies. The Exelon primary and alternate methods of communication, and the NRC communications network, are illustrated on Figures F-2 and F-3.

- a. Exelon Nuclear maintains the capability to make initial notifications to the designated offsite agencies on a 24-hour per day basis. The offsite notification system, referred to as the Nuclear Accident Reporting System (NARS) provides communications to state and county warning points and Emergency Operations Centers from the CR, TSC, and EOF. Backup methods include facsimile and commercial telephone lines. state and county warning points are continuously staffed.
- b-d. Exelon Nuclear has established several dedicated communication systems that ensure reliable and timely exchange of information necessary to provide effective Command and Control over any emergency response; (1) between Exelon and state and local agencies within the EPZs, (2) with federal emergency response organizations, (3) between the plant, the EOF, and the state and county EOCs, and (4) between Emergency Response Facilities and Field Monitoring Teams. A general description of the systems is as follows:

- 1) Nuclear Accident Reporting System (NARS): The NARS is a dedicated communications system that has been installed for the purpose of notifying state and local authorities of declared nuclear emergencies. This system links together the station Control Rooms, the EOF, TSCs and state and local authorities as appropriate. The specific design, operation, and responsibility for maintenance of the NARS systems vary between Exelon Nuclear regions.
- 2) Damage Control Line: A dedicated telephone link called the Damage Control Line that enables communication between the Control Room, the TSC and the OSC to coordinate the dispatching of emergency damage control teams from the OSC (see Figure F-2).
- 3) Operations Status Line: A dedicated telephone link called the Operations Status Line that enables communication between the Control Room, the TSC and the EOF to monitor the activities of the Control Room staff (see Figure F-2).
- 4) Technical Conference Line: A dedicated telephone line called the Technical Conference Line between the TSC and the EOF to communicate mitigating activities and priorities for the station to the EOF (see Figure F-2).
- 5) Director's Hotline: A dedicated telephone link called the Director's Hotline that enables direct Emergency Director communication between the Control Room, TSC, and the EOF (see Figure F-2).
- 6) Private Branch Exchange (PBX) Telephone System: The PBX telephone system provides communication capability between telephones located within the plant. The PBX is used to connect the CR, TSC, EOF, and OSC. The PBX telephone system also provides for outside communications through interconnections with the corporate telephone communications system and commercial telephone lines.
- 7) Local Commercial Telephone System: This system provides standard commercial telephone service through the public infrastructure, consisting of central offices and the wire line and microwave carrier. The commercial telephone system includes connections to PBX, emergency telephone system, dedicated lines to emergency facilities, and lines to the JICs. The commercial vendor provides primary and secondary power for their lines at their central office.
- 8) Field Monitoring Team (FMT) Communications: A separate communications system has been installed to allow coordinated environmental monitoring and assessment during an emergency. This system consists of the necessary hardware to allow communication between the Control Room, TSC, EOF, and mobile units in Exelon Nuclear vehicles. Though direct communications between the Control Room and the FMTs is not required per the prescribed methods of FMT coordination, the FMTs can be contacted from equipment in the Control Room if required. Commercial cell phones or other means are available as back up to the primary field team communications system.

In addition, station communication links exist to ensure appropriate information transfer capabilities during an emergency. The station may also utilize its Public Address System, station radios and notification devices to augment its emergency communications.

- e. ERO Notification System: Exelon Nuclear utilizes an automated ERO Notification System to rapidly notify members of the ERO. The system consists of a network of physical infrastructure capable of initiating and receiving contact via multiple notification devices. When activated, the system contacts the notification devices (e.g., through commercial and cellular phone, email, text message) belonging to members of the ERO. The System includes redundant activation methods via the internet, call-centers, or direct telephone activation, as well as redundant, geographically separated call centers and data centers, with redundant power sources. Implementing procedures specify the course of action to be taken if the primary ERO Notification System activation path fails to respond. The ERO Notification System provides primary and back-up notification functions.

- f. NRC Communications (ENS and HPN)

Communications with the NRC Operations Center will be performed via the NRC ENS and HPN circuits or commercial telephone line. Information is normally communicated from an approved NRC Event Notification Worksheet prior to establishing an open ENS and/or HPN line.

Installation and use of these NRC telephones is under the direction of the NRC (see Figure F-3).

Emergency Notification System (ENS): Dedicated telephone equipment is in place between the Control Room and the NRC, with an extension of that line in the TSC. A separate line is available in the EOF with the capability of being patched with the station through the NRC. This line is used for NRC event notifications and status updates.

Health Physics Network (HPN): There also exists a separate dedicated telephone between the NRC, the TSC, and EOF for conveying health physics information to the NRC as requested or as an open line.

2. Medical Communications

Communications are established with the primary and backup medical hospitals and transportation services via commercial telephone that is accessed by station personnel.

3. Communications Testing

Communications equipment is checked in accordance with Section H.10. Communications drills between Exelon Nuclear and state and county government facilities are conducted in accordance with Section N.2.a. In addition, minimum siren testing is performed in accordance with the site-specific siren Design Report.

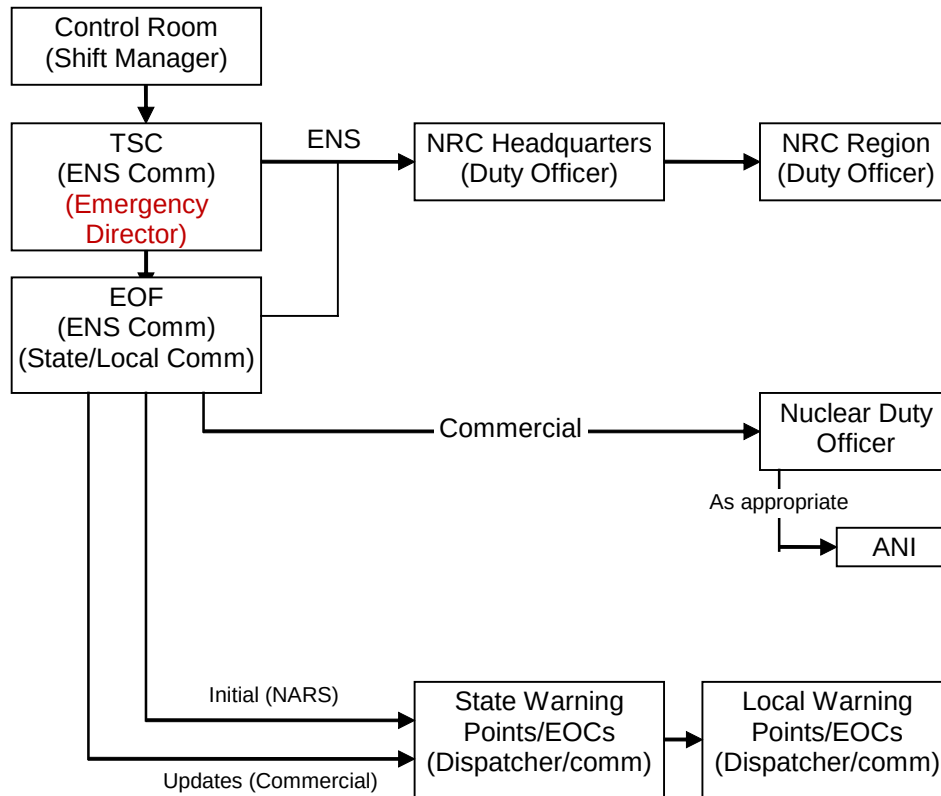
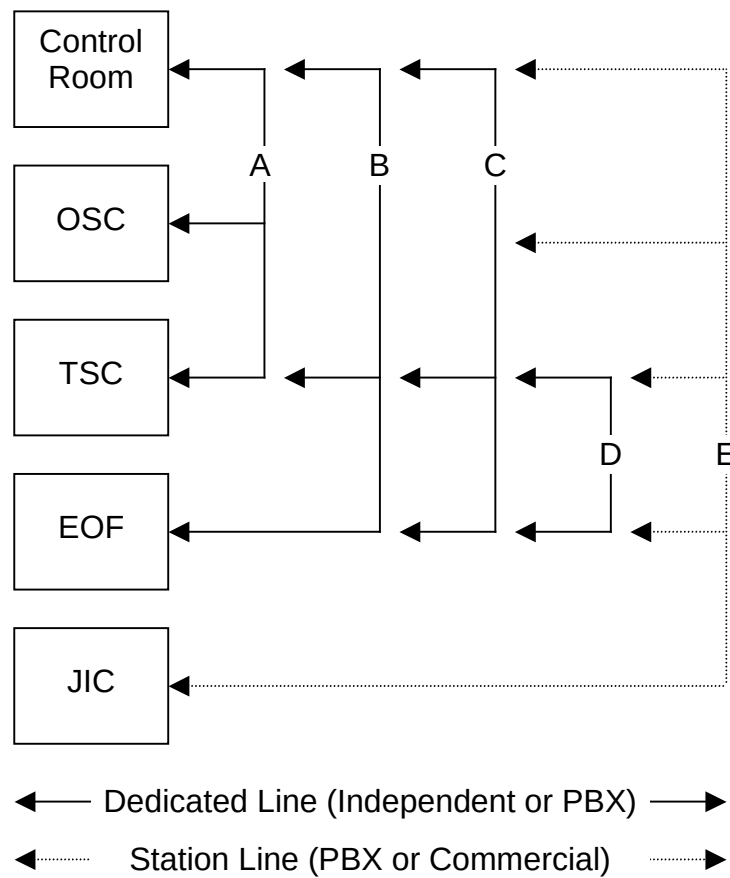
Figure F-1: Exelon Notification Scheme (For Full Augmentation)

Figure F-2: ERF Communications Matrix

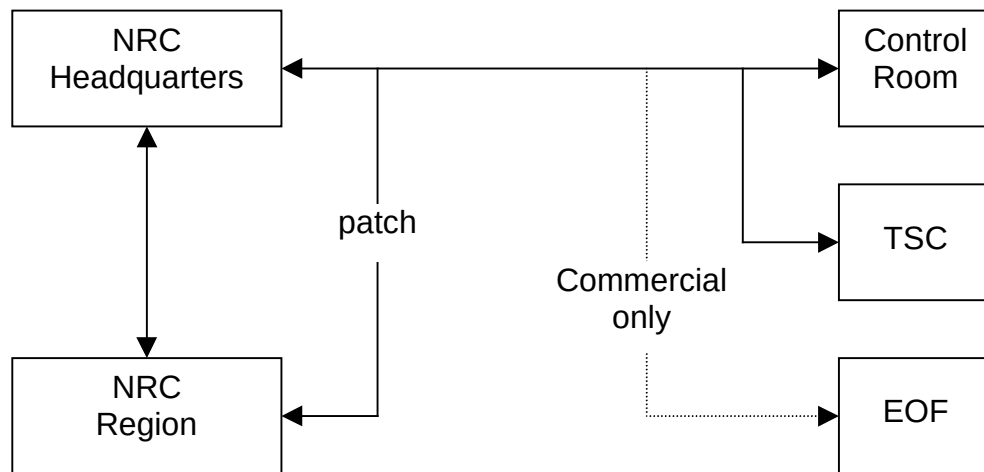
A = Damage Control Line between the OSC, TSC, and Control Room.

B = Directors Hotline line between the Control Room, TSC and EOF.

C = Operations Line between the TSC, Control Room and EOF.

D = Technical Conference Line between the TSC and EOF.

E = Station telephone line.

Figure F-3: NRC Communications for Nuclear Response

NOTE: ENS and HPN circuits may use the Federally maintained system, company tie lines or PBX as dedicated primary communications systems and have commercial backups.

Section G: Public Education and Information

This section describes the Exelon Nuclear public education and information program. It outlines the methods for distributing public information materials on an annual basis and describes how the public is informed in the event of an emergency.

1. Public Information Publication

The state has overall responsibility for maintaining a continuing disaster preparedness public education program. The emergency public information publication for the Exelon Nuclear generating stations is updated annually, in coordination with state and county agencies, to address how the general public is notified and what their actions should be in an emergency. Exelon distributes the publication on an annual basis by mail to all residents within the ten-mile plume exposure EPZs and to appropriate locations where a transient population may obtain a copy. The public information publication includes the following information:

- a. Educational information on radiation.
- b. A description of the times that require public notification (what to do if a take-shelter or evacuate recommendation is given).
- c. A map of major evacuation routes.
- d. A list of communities likely to serve as host shelter areas and instructions on how to obtain additional information, especially for the disabled or their caretakers and those without transportation.

2. Public Education Materials

Public information publications instruct the public to go indoors and turn on their radios when they hear the ANS sirens operating. These publications also identify the local radio stations to which the public should tune in for information related to the emergency.

3. Media Accommodations

- a. The Exelon Communications and Public Affairs Department is notified when an Unusual Event or higher Emergency condition exists. They will handle public and media inquiries in the early stages of the event (until the JIC is activated) by distributing background information, news releases, and providing information to corporate management.
- 1) The Emergency Public Information Organization: The Emergency Public Information Organization is part of the Corporate ERO. It may be activated at any time at the discretion of the Nuclear Duty Officer. However, when there is a procedural requirement to activate the EOF, the Emergency Public Information Organization shall also be activated.

The primary purpose of the Emergency Public Information Organization is to disseminate information from Exelon Nuclear's ERO about the emergency events to the public, via the news media. However, the authority for issuance of news releases for the classification of an Unusual Event or prior to ERO activation will always reside with the Exelon Communications and Public Affairs Department. Upon activation, the Emergency Public Information Organization has the responsibility and authority for issuance of news releases to the public.

The Emergency Public Information Organization is comprised of senior managers from Exelon Nuclear who will function as spokespersons, and other Exelon Nuclear individuals including personnel from the Governmental Affairs and Human Relations areas. Exelon Nuclear's spokespersons disseminate information to the news media/public concerning the emergency events out of a Joint Information Center (JIC).

- 2) The Joint Information Center (JIC): The JIC is the facility in which media personnel gather to receive information related to the emergency event. The JIC is the location where approved news releases will be provided to the media for dissemination to the public. News releases are coordinated between the EOF and JIC personnel and state and/or Federal representatives in the JIC. Exelon public information personnel operate from the EOF and the JIC, which is under the direction of the Corporate Spokesperson and functions as the single point contact to interface with Federal, state, and local authorities who are responsible for disseminating information to the public.

Each station has a designated JIC. Each JIC is equipped with appropriate seating, lighting and visual aids to allow for public announcements and briefings to be given to the news media. Additionally, JICs are equipped with commercial telephone lines for making outgoing calls. The Emergency Public Information Organization functions from the JIC and EOF in preparing and releasing utility information about the emergency event. The JIC is activated at the declaration of an Alert or higher classification. Some JIC personnel may perform functions remotely from alternate locations while remaining in contact with personnel in the JIC facility (e.g., media monitoring, rumor control, news writers, issuance of press releases). The JIC Director and Corporate Spokesperson will ensure communication and coordination of these functions with the EOF and JIC staff. Functions of the JIC include:

- Serving as the primary location for accumulating accurate and current information regarding the emergency conditions and writing news releases.
- Providing work space and phones for public information personnel from the state, counties, NRC, FEMA, and industry-related organizations.
- Providing telephones for use by the news media personnel.
- Providing responses to media inquiries through telephones that the media can call for information about an emergency.

- b. The news media is not permitted into the EOF during an emergency.

4. Coordination of Public Information

- a. The JIC is staffed by Exelon and government public information representatives who will be the source of public information during an emergency at the station. The Corporate Spokesperson is the primary spokesperson for Exelon Nuclear. The Corporate Spokesperson has direct access to all necessary information (see Section B.5).
- b. The JIC is staffed by federal, state, county, and utility personnel to assure timely, periodic exchange and coordination of information. Representatives coordinate information prior to conducting news briefings.
- c. Rumors or misinformation are identified during an emergency by the JIC Staff. They respond to public and news media calls and monitor media reports.
- d. The JIC for the MA Region Three Mile Island, Limerick and Peach Bottom Stations is co-located with the EOF at 175 North Caln Road, Coatesville, Pennsylvania.

5. Media Orientation

Emergency Preparedness, in conjunction with Exelon Communications and Public Affairs Department, offers training (at least annually) to acquaint news media with the E-Plan, information concerning radiation, and points of contact for release of public information in an emergency. Training is provided for those media agencies that accept the training offer.

Section H: Emergency Facilities and Equipment

Onsite and offsite facilities are available for emergency assessment, communications, first aid and medical care, and damage control. Of particular importance are the Emergency Response Facilities (ERFs); the Control Room (CR), the Technical Support Center (TSC), the Operations Support Center (OSC), the Emergency Operations Facility (EOF), and the Joint Information Center (JIC).

This section describes the emergency facilities and equipment used by the Emergency Response Organization and outlines the requirements which aid in timely and accurate response actions. It also describes the surveillance programs used to monitor and ensure that these facilities and equipment are maintained in a high degree of constant readiness.

1. Control Room, Technical Support Center, and Operations Support Center

Three Mile Island has established a TSC and an on-site OSC, which are activated upon declaration of an Alert or higher classification. Until they become operational, required functions of these facilities are performed in the Control Room.

Under certain adverse conditions for Security-Based Events, personnel may be assembled in an "ERO Alternative Facility" prior to being dispatched to one of the facility ERFs.

- a. Station Control Room: The Control Room is the centralized onsite location from which the Nuclear Station's plant systems necessary to support the spent fuel pool are operated. The Control Room is equipped with instrumentation to supply detailed information on the plant systems. The Control Room is continuously staffed with qualified operators. The Control Room is the first onsite facility to become involved with the response to emergency events. Control Room personnel must evaluate and effect control over the emergency and initiate activities necessary for coping with the emergency until such time that support centers can be activated. These activities shall include:

- Plant control.
- Initial direction of all plant related operations.
- Accident recognition, classification, mitigation and initial corrective actions.
- Alerting of onsite personnel.
- Notification of appropriate individuals.
- Activation of emergency response facilities and ERO notification.
- Notification of offsite agencies.
- Continuous evaluation of the magnitude and potential consequences of an incident.

- Initial dose projections.
- Recommendations for immediate protective actions for the public.

As other ERFs become activated, they will supply support to the Control Room, although overall Command and Control of the emergency will transfer to the SED (TSC) or the CED (EOF). Throughout all emergencies, the Control Room maintains its emergency activation status until its normal operational status may be resumed.

- b. Technical Support Center (TSC): Three Mile Island has established a TSC for use during emergency situations by station management, technical, and engineering support personnel. The TSC is activated for all emergencies classified as Alert or higher. Activation for other events is optional. When activated the TSC functions include:

- Support for the Control Room's emergency response efforts.
- Support the SED with assigned Command & Control functions.
- Continued evaluation of event classification.
- Assessment of the plant status and potential offsite impact.
- Coordination of emergency response actions.
- Notification of appropriate corporate and station management.
- Notification and update of the NRC via Emergency Notification System (ENS).

The TSC is the onsite location utilized to support the Control Room for assessment of plant status and potential offsite impact, and for implementation of emergency actions. TSC provides technical data and information to the EOF.

Figure TMI B-1b illustrates the staffing and organization of the TSC.

The TSC provides reliable voice communications to the Control Room, the OSC, the EOF, the NRC, and state and local Emergency Operations Centers. In addition, it provides facsimile transmissions capability (see Section F.1).

The TSC is sized to accommodate a minimum of 25 spaces and supporting equipment. This includes provisions for five NRC representatives. Adequate space is also available for the appropriate state representative(s).

Personnel in the TSC shall be protected from radiological hazards, including direct radiation and airborne contaminants under accident conditions with similar radiological habitability as Control Room personnel. To ensure adequate radiological protection, permanent radiation monitoring systems have been installed in the TSC and/or periodic radiation surveys are conducted. These systems indicate radiation dose rates and airborne radioactivity inside the TSC while in use. In addition, protective breathing apparatus (full-face air purifying respirators) and KI are available for use as required.

The TSC has access to a complete set of as-built drawings and other records, including general arrangement diagrams, P&IDs, and the electrical schematics. The TSC has the capability to record and display vital plant data, in real time, to be used by knowledgeable individuals responsible for engineering and management support of operations, and for implementation of emergency procedures.

- c. Operations Support Center (OSC): Three Mile Island has established an OSC. The OSC is the onsite location to where station support personnel report during an emergency and from which they will be dispatched for assignments or duties in support of emergency operations. The OSC shall be activated whenever the TSC is activated, but need not remain activated at the Alert level if its use is judged unnecessary by the Station Emergency Director. At the Site Area and General Emergency levels, the OSC or an alternate OSC shall be activated at all times. The OSC is not activated for a HOSTILE ACTION when the Alternative Facility is implemented. Activation for other events is optional. Station disciplines that may be called in to support the OSC include, but are not limited to:
- Operating personnel not assigned to the Control Room,
 - Radiation Protection Personnel,
 - Chemistry Personnel,
 - Maintenance Personnel (mechanical, electrical and I&C).

Figure TMI B-1b illustrates the staffing and organization for the OSC.

Each OSC is equipped with communication links to the Control Room, the TSC and the EOF (see Section F). A limited inventory of supplies will be kept for the OSC. This inventory will include respirators, protective clothing, flashlights and portable survey instruments.

2. Emergency Operations Facility (EOF)

The EOF is the location where the Corporate Emergency Director will direct a staff in evaluating and coordinating the overall company activities involved with an emergency. Activation of the EOF is mandatory upon declaration of an Alert or higher classification. The EOF provides for:

- Management of overall emergency response.

- Coordination of radiological and environmental assessments.
- Determination of recommended public protective actions.
- Management of recovery operations.
- Coordination of emergency response activities with federal, state, and local agencies.

The common MA Region EOF is located west of Philadelphia, in Coatesville PA. This facility supports Limerick, Peach Bottom and TMI Stations.

The facility is designed with the following considerations:

- The location provides optimum functional and availability characteristics for carrying out overall strategic direction of Exelon Nuclear onsite and support operations, determination of public protective actions to be recommended to offsite officials, and coordination with Federal, state and local organizations.
- It is well engineered for the design life of the plant and is of sufficient size to accommodate about 50 people.
- It is equipped with reliable voice communications capabilities to the TSC, the OSC, the Control Room, NRC, and state and local emergency operations centers. In addition, the EOF has facsimile transmission capability.
- Equipment is provided to gather, store, and display data needed in the EOF to analyze and exchange information on plant conditions with the Station. The EOF technical data system receives, stores, processes, and displays information sufficient to perform assessments of the actual and potential onsite and offsite environmental consequences of an emergency condition.
- The EOF has ready access to plant records, procedures, and emergency plans needed for effective overall management of Exelon Nuclear emergency response resources.

3. Emergency Operations Centers

EOCs operated by the state and local communities have been established to perform direction and control of emergency response functions.

The Pennsylvania state EOC is capable of continuous (24-hour) operations for a protracted period. The center contains sufficient communications (radio, telephone and teletype) equipment, maps, emergency plans, and status boards to provide the necessary interfaces with other federal, state, county, and Exelon emergency facilities.

The county EOCs serve as Command and Control headquarters for local emergency response activities as well as a center for the coordination of communications to field units and to the state EOC. The EOC has the equipment necessary, (such as facsimile machines, telecommunications equipment, radio gear, photocopiers, wall maps, etc.) to carry out their emergency responsibilities.

4. Activation

NOTE: NUREG-0654 Criterion II.B.5 states that the "licensee must be able to augment on-shift capabilities within a short period after declaration of an emergency". It further defines that short period as 30 and 60 minutes. The time frames for rapid augmentation of a nuclear power plant staff in the event of an emergency are not rigid inviolate requirements but rather goals. It is Exelon Nuclear's intent to expend its best efforts to meet the augmentation criteria goals regarding staffing Emergency Response Facilities with sufficiently skilled individuals capable of handling an emergency. Both the NRC and Exelon Nuclear realize that due to diversity of normal residential patterns for the stations' staff, possible adverse weather conditions, road congestion and site access restrictions, these time frames might be exceeded.

Exelon Nuclear has put into place plans and procedures to ensure timely activation of its emergency response facilities. The Shift Manager (as Shift Emergency Director) will initiate a call-out in accordance with the implementing procedures. The ERO augmentation process identifies individuals who are capable of fulfilling the specific response functions that are listed in ERO staffing tables contained within this Emergency Plan. This table was developed based on the functions listed in NUREG-0654, Table TMI B-1.

Although the response time will vary due to factors such as weather and traffic conditions, a goal of 60 minutes for minimum staffing, following the declaration of an Alert or higher emergency classification, has been established for the ERO personnel responding to the station emergency facilities and the EOF. Additionally, plans have been developed to ensure timely functional activation and staffing of the JIC when the classification of Alert is declared.

It is the goal of the organization to be capable of activating the applicable Emergency Response Facility upon achieving minimum staffing. The facility can be declared activated when the following conditions are met:

- a. Minimum staffing has been achieved.
- b. The facility is functional.

Although the minimum staffing criteria applies to the JIC, the activation time is 90-minutes from an Alert or higher classification.

The Director in charge may elect to activate their facility without meeting minimum staffing; if it has been determined that sufficient personnel are available to fully respond to the specific event (this would not constitute a successful minimum staff response).

5. Monitoring Equipment Onsite

Three Mile Island is equipped with instrumentation for seismic monitoring, radiation monitoring, fire protection and meteorological monitoring. Instrumentation for the detection or analysis of emergency conditions is maintained in accordance with station Technical Specifications, if applicable, or commitments made to the NRC. Descriptions of the equipment will appear in the Station Annex. This equipment includes but is not limited to the following:

a. Geophysical Monitors

- 1) Meteorological Instrumentation: A permanent meteorological monitoring station is located near each station for display and recording of wind speed, wind direction, and ambient and differential temperature for use in making offsite dose projections. Meteorological information is presented in the CR, TSC, and EOF by means of the plant computer system. This information is remotely interrogated using a computer or other data access terminal.

With regard to Exelon Nuclear's meteorological monitoring program, there has been a quality assurance program adopted from 10 CFR 50, Appendix B. However, since the meteorological facilities are not composed of structures, systems, and components that prevent or mitigate the consequences of postulated accidents and are not "safety related," not all aspects of 10 CFR 50, Appendix B, apply. Those aspects of quality assurance germane to supplying good meteorological information for a nuclear power station were adopted into the meteorological quality assurance program. The meteorological program is also subject to the requirements of the Decommissioning Quality Assurance Program.

The National Weather Service (NWS), or regional weather forecast providers, may be contacted during severe weather periods. These providers analyze national and local weather in order to provide localized weather forecasts for the system or for the station area as appropriate.

- 2) Seismic Monitoring: The seismic monitoring system measures and records the acceleration (earthquake ground motion) of the structure. Earthquakes produce low frequency accelerations which, when detected by the remote sensing devices, are permanently recorded as information which defines the response spectrum. The system remains in a standby condition until an earthquake causes the remote unit(s) to activate the recording circuits and tape transports. It also provides signals for immediate remote indication that specific preset response accelerations have been exceeded.
- 3) Hydrological Monitors: The design basis flood, probable maximum precipitation, and other improbable, conceivable extremes in hydrologic natural phenomena are well below any design limits for the station as detailed in the UFSAR.

b. Radiological Monitors and Sampling

- 1) The Radiation Monitoring System (RMS): In-plant radiological measurements provide information that may help determine the nature, extent and source of emergency conditions. The RMS is available to give early warning of a possible emergency and provides for a continuing evaluation of the situation in the Control Room. Radiation monitoring instruments are located at selected areas within the facility to detect, measure, and record radiation levels. In the event the radiation level should increase above a preset level, an alarm is initiated in the Control Room. Certain radiation monitoring instruments also alarm locally in selected areas of the facility. The RMS is divided into 3 subsystems:
 - a) Area Radiation Monitors (ARMs) are used for the direct measurement of in-plant exposure rates. The ARM readings allow in-plant exposure rate determinations to be made remotely without requiring local hand-held meter surveys. This information may be used, initially, to aid in the determination of plant area accessibility. In addition to permanent monitors, portable Continuous Air Monitors (CAMs) measure airborne particulate and airborne iodine activities at various locations within the operating areas.
 - b) Process Radiation Monitors (PRMs) are used for the measurement of radioactive noble gas, iodine, and particulate concentrations in plant effluent and other gaseous and fluid streams.
 - c) The accident, or high range, radiation monitoring system monitors radiation levels at various locations within the operating area. These are high range instruments used to track radiation levels under accident or post accident conditions.

The RMS provides the necessary activity or radiation levels required for determining source terms in dose projection procedures. Key RMS data is linked to the plant computer, which allows information to be passed to the TSC and EOF. The isotopic mix, including isotopes such as those in Table 3 of NUREG-0654, is based upon a default accident mix. Refer to the Three Mile Island UFSAR for further detail on the RMS capabilities and design.

- 2) Liquid and Gaseous Sampling Systems: The process sampling system consists of the normal sampling system and additional sampling panels located throughout the plant. Sampling systems are installed or can be modified to permit sampling even under severe accident conditions.

The sampling systems use a number of manual sampling techniques to enable sampling operations over a wide range of plant conditions. It is capable of providing information relative to post-accident plant conditions to allow operator actions to be taken to mitigate and control the course of an accident. Refer to the Three Mile Island UFSAR for further detail on sampling capabilities.

- 3) Portable Radiation Monitoring Equipment: Portable radiation survey instruments are available for a wide variety of uses such as area, sample, and personnel surveys and continued accident assessment. Instruments are stored throughout the plant and in the emergency facilities.
- c. Process Monitors: The Control Room and applicable redundant backup locations are equipped with extensive plant process monitors for use in both normal and emergency conditions. These indications include but are not limited to liquid levels, flow rates, status or lineup of equipment components. This instrumentation provides the basis for initiation of corrective actions.
- 1) Plant Monitoring/Information System: A plant monitoring/information system provides the data acquisition and database capability for performing plant monitoring and functions. The system is designed to scan, convert to engineering units, make reasonability and alarm limit checks, apply required transformations, store for recall and analysis, and display the reading of transformed data from plant instrumentation. The system scans flows, pressures, temperatures, fluid levels, radiation levels, equipment, and valve status at required frequencies. Scanned variables are quality tagged. The system provides for short and mid-term storage of data for on-line retrieval and fast recall, and long term storage to appropriate media.
 - 2) Safety Parameter Display (SPDS) & Plant Parameter Display (PPDS) Systems: SPDS and PPDS provide a display of plant parameters from which the safety status of operation may be assessed in the Control Room, TSC and EOF. The primary function of the SPDS and PPDS is to help operating personnel in the Control Room make quick assessments of plant safety status. SPDS and/or PPDS displays in the TSC and EOF promote the exchange of information between these facilities and the Control Room and assists the emergency organization in the decision making process.

- d. Fire Detection System: The Fire Detection System is designed to quickly detect visible or invisible smoke (or other products of combustion) and/or heat in designated areas of the plant. The fire alarm communication systems and subsystems are located at strategic points throughout the plant to warn personnel of a nuclear incident or other emergency conditions. Existing plant alarm systems are sufficiently audible to alert personnel in the event of a fire or need for assembly. These alarm communication systems consist of warning sirens and lights (in high noise areas) and the PA system. Refer to the Three Mile Island UFSAR for further description of the station's fire protection system.

6. Monitoring Equipment Offsite

Exelon has made provisions to acquire data from and have access to the following offsite sources of monitoring and analysis equipment:

- a. Geophysical Monitors: In the event that the onsite meteorological tower or monitoring instrumentation becomes inoperative and the contracted weather provider cannot be contacted, meteorological data may be obtained directly from the National Weather Service or the internet.

A considerable array of seismometers are located in the region. A central point of contact to obtain information about a seismic event is the National Earthquake Information Service in Golden, Colorado.

Exelon Nuclear Corporate Offices can coordinate hydrology and seismology expertise in the event onsite information becomes unavailable.

- b. Radiological Environmental Monitors and Sampling: Exelon Nuclear has contracted with a company to conduct an extensive offsite environmental monitoring program to provide data on measurable levels of radiation and radioactive materials in the environs. The program (described fully in the Offsite Dose Calculation Manual), includes:

- Fixed continuous air samplers.
- Routine sampling of river water; milk and fish.
- A fixed dosimeter monitoring network.

The dosimeter program consists of the following elements:

- A near-site ring of dosimeters covering the 16 meteorological sectors.
- A 16-sector ring of dosimeters placed in a zone within about 5 miles from the plant.
- Dosimeters placed at each of the normal fixed air sampler locations (typically about 8-15 air samplers per nuclear station).

- c. Laboratory Facilities: External facilities for counting and analyzing samples can be provided by the other Exelon Nuclear stations, state, federal or contracted laboratories. These laboratories can act as backup facilities in the event that the affected station's counting room and laboratory become unusable or the offsite radiological monitoring and environmental sampling operation exceeds the capacity or capability of the station laboratory during an emergency. It is estimated that these laboratories will be able to respond within several hours from initial notification.

Outside analytical assistance may be requested from state and federal agencies, or through contracted vendors. The state maintains a mobile radiological laboratory that provides the primary means of analyzing off-site environmental samples. The NRC mobile laboratory may be made available for Site Area and General Emergencies. The DOE, through the Radiological Assistance Program (RAP) has access to any national laboratory with a Bell Lab contract (e.g., Brookhaven, Oak Ridge, Lawrence Livermore, etc.).

A general description of the laboratory capabilities is provided in Section C.3.

7. Offsite Monitoring Equipment Storage

Three Mile Island maintains a sufficient supply of emergency equipment (such as portable survey, counting, and air sampling instrumentation and other radiological monitoring equipment and supplies) that may be used for environmental monitoring. These supplies meet the initial requirements of two environmental Field Monitoring Teams. During subsequent phases of an emergency, additional equipment is available from other Exelon Nuclear generating stations, vendors and offsite response organizations.

8. Meteorological Monitoring

The station has installed and maintains a meteorological tower equipped with instrumentation for continuous reading of the wind speed, wind direction, air temperature and delta air temperature. Additional capabilities are available to obtain representative current meteorological information from other sources, such as the National Weather Service. A full description of the onsite meteorological capabilities is given in Section H.5.a of this Plan.

9. OSC Capabilities

The OSC provides area for coordinating and planning of OSC activities and the staging of personnel. Further space is available in adjacent offices and locker rooms to accommodate additional personnel as may be required. Alternate locations are available. The onsite storeroom maintains a supply of parts and equipment for normal plant maintenance. These parts, supplies and equipment are available for damage control use as necessary.

Sufficient radiation protection equipment (i.e., protective clothing, respiratory protection gear, KI, and other health physics equipment and supplies) is stored and maintained near the OSC (as well as the other emergency response facilities). Damage Control Team equipment is available near the OSC as well as in the maintenance shops. This equipment includes items such as a camera, portable lighting, and additional portable communications equipment. The OSC is stocked with an assortment of first aid and medical treatment equipment and supplies. The OSC maintains reliable voice communications with the CR, TSC, and EOF. For a complete description of communications equipment, refer to Section F. When an emergency condition exists at one station, additional supplies can be obtained from other unaffected stations and Exelon resources upon request.

10. Facility and Equipment Readiness

Emergency facilities and equipment are inspected and inventoried in accordance with emergency preparedness procedures. These procedures provide information on location and availability of emergency equipment and supplies. An inventory of all emergency equipment and supplies is performed on a quarterly basis and after each use in an emergency or drill. During this inventory, radiation monitoring equipment is checked to verify that required calibration period and location are in accordance with the inventory lists. Inspections include an operational check of instruments and equipment. Equipment, supplies, and parts which have a shelf-life are identified, checked, and replaced as necessary. Sufficient reserves of instruments and equipment are maintained to replace those which are removed from emergency kits or lockers for calibration or repair. The station is responsible for maintaining a supply of KI at the site.

11. General Use Emergency Equipment

Inventory procedures identify the equipment that makes up kits used in an emergency situation available within each emergency facility.

12. Collection Point for Field Samples

The onsite chemistry lab has been designated as the central point for the receipt of radiological field monitoring samples. Sampling and analysis equipment is available for quantitative activity determination of marine and air samples, and qualitative activity determination of terrestrial samples. Sufficient field monitoring equipment is maintained at the station for initial sampling. Instrumentation and equipment utilized for sample activity determination are routinely calibrated to ensure timely availability. Additional facilities as described in C.3 and H.6.c are available for sample and analysis of environmental samples.

Refer to the Station Annex for further description of contracted environmental sampling and analysis support for the site.

Section I: Accident Assessment

To effectively coordinate and direct all facets of the response to an emergency situation, diligent accident assessment efforts are required throughout the emergency. All four emergency classifications have similar assessment methods, however, each classification requires a greater magnitude of assessment effort dependent upon the plant symptoms and/or initiating event(s).

1. Plant Parameters and Corresponding Emergency Classification

Plant system and effluent parameter values are utilized in the determination of accident severity and subsequent emergency classification. Environmental and meteorological events are also determining factors in emergency classification. An emergency condition can be the result of just one parameter or condition change, or the combination of several. The specific symptoms, parameter values or events for each level of emergency classification are detailed in the emergency implementing procedures. Specific plant system and effluent parameters that characterize a classifiable event (EALs) are presented in Addendum 3 to each Station Annex.

In order to adequately assess the emergency condition, each emergency facility has the necessary equipment and instrumentation installed to make available essential plant information on a continuous basis. Evaluation of plant conditions is accomplished through the monitoring of plant parameters both from indication in the Control Room and within the plant. Some of the more important plant parameters to be monitored in the Control Room are assembled into a single display location, which is entitled the "Safety Parameter Display System" (SPDS). The SPDS monitors such parameters as: safety system status and effluent monitor readings. The instrumentation and equipment capabilities available for each emergency facility are described in Section H.

2. Onsite Accident Assessment Capabilities

The resources available to provide initial and continuing information for accident assessment throughout the course of an event include plant parameter display systems, liquid and gaseous sampling system, Area and Process Radiation Monitoring Systems, and Accident Radiation Monitoring Systems. Descriptions of these systems are given in Section H.5.b.

3. Source Term Determination

Source term (or fuel damage) estimations serve several roles within the Exelon Emergency Preparedness Program. For planning purposes, fuel damage considerations are used as the bases for several of the Emergency Action Level (EAL) Initiating Conditions and as the threshold for the declaration of a General Emergency (the definition of a General Emergency specifies conditions which involve 'substantial' fuel degradation or melting as one of the bases for classification).

From an implementation perspective, fuel damage estimations provide a means of realistically differentiating between no damage, clad failure, and fuel melt to:

- Evaluate the status of the fuel clad and how their status relates to the risks and possible consequences of the accident.

- Provide input on fuel configuration (coolable or uncoolable) for prioritization of mitigating activities.
- Determine the potential quality (type) and/or quantity (%) of source term available for release in support of projected offsite doses and protective action recommendations.
- Provide information that quantifies the severity of an accident in terms that can be readily understood and visualized.
- Support the determination of radiological protective actions that should be considered for long term recovery activities.
- The assessment methodologies utilized by Three Mile Island are intended to provide a rapid best estimate of fuel damage which, when evaluated together, help to develop an overall picture of the extent of fuel damage.

4. Effluent Monitor Data and Dose Projection

Dose assessment or projection represents the calculation of an accumulated dose at some time in the future if current or projected conditions continue. During an accident, the Plant Parameter Display System and personal computers will provide the ERO with the timely information required to make decisions. Radiological and meteorological instrumentation readings are used to project dose rates at predetermined distances from the station, and to determine the integrated dose received. Dose assessment methods used by Exelon personnel to project offsite doses include:

- A. Monitored Release Points - This method utilizes the plant's effluent radiation monitors and system flow rates. Effluent release points are used to directly calculate a release rate. The point of the release determines the way the source term is affected and is adjusted by the dose assessment process.
- B. Release Point Samples - This method uses a sample at the release point and an estimated flow rate to develop a release rate at the point of release.
- C. Field Monitoring Team Data - This method uses a field survey or sample and the atmospheric model to back calculate a release rate and ratio concentrations of radioactive material at various points up and downwind of plume centerline.

The computer applications used to provide dose calculations are evaluated against the EPA-400 plume exposure Protective Action Guides (PAGs) applicable for the early phase of an accident. These evaluations place an emphasis on determining the necessity for offsite protective action recommendations. Dose assessment actions will be performed in the following sequence:

- First: Onset of a release to 1 hour post-accident: Shift personnel will rely on a simplified computerized dose model to assist them in developing offsite dose projections using real time data from effluent monitors and site meteorology.

Second: 1 hour post-accident to event termination: Estimates of off-site doses based on more sophisticated techniques are provided. Dedicated ERO personnel will analyze the offsite consequences of a release using more complex computerized dose modeling. These additional methods are able to analyze more offsite conditions than the simplified quick method, as well account for more specific source term considerations.

5. Meteorological Information

Local meteorological data is available from an onsite meteorological tower. The data available includes wind speed, wind direction, temperature, and delta temperature. These data are used by the utility, state, and NRC to provide near real-time predictions of the atmospheric effluent transport and diffusion. Meteorological data from the tower is available in the CR, TSC, and EOF. A full description of the onsite meteorological capabilities is given in Section H.5.a.

6. Unmonitored Release

Dose projections can be made during a release through use of actual sample data in situations where effluent monitors are either off-scale or inoperative or the release occurs by an unmonitored flow path. In the absence of effluent sample data, a dose projection can be performed simply by specifying the accident category as a default. The selection of a default accident category defines the mix, the total curies, and the release pathway(s). The total number of curies from a default mix for each isotope is used to provide an upper bound for release concentration, and hence, an upper bound for the dose rate and dose to the public.

7. Field Monitoring

In addition to the capabilities and resources described in Section H.6.b and H.7, Three Mile Island maintains the ability to take offsite air samples and to directly measure gamma dose rates the event of an airborne or liquid release. The capability to take offsite soil, water, and vegetation samples is also provided by either the Field Teams or a contracted vendor.

The environmental monitoring equipment, as described in Section H, contain portable survey, counting, and air sampling instrumentation and other radiological monitoring equipment and supplies to be used by the Field Monitoring Teams. Samples are taken at predetermined locations as well as those specified both during and after a release. Environmental measurements are used as an aid in the determination and assessment of protective and recovery actions for the general public.

8. Field Monitoring Teams

Field Monitoring Teams are dispatched by Three Mile Island to perform a variety of functions during conditions that may involve significant releases of radioactive materials from the plant. Radiological survey and sample data is used to define affected area boundaries, verify or modify dose projections and protective action recommendations, and assess the actual magnitude, extent, and significance of a liquid or gaseous release.

In addition to contamination and dose rate measurements, the change out of dosimeters and air sampler cartridges can be performed. Other actions may include soil, water and vegetation sampling.

The initial environmental surveys involve simple-to-perform measurements to quickly confirm or modify the dose projections based on plant parameters. Subsequent environmental monitoring efforts will be aimed at further defining the offsite consequences including instituting an expanded program to enable prompt assessments of any subsequent releases from the plant.

The expertise necessary to conduct limited offsite environmental survey and sampling exists onsite 24 hours a day. A minimum of two offsite Field Monitoring Teams are notified and activated at an Alert or higher classification. Teams are composed of two individuals are assembled at the station to test and inventory dedicated survey and sampling equipment. Teams are then dispatched in company or personal vehicles into the surrounding area when a release is or is expected to occur. Radiological survey and sample data is transmitted to the emergency facilities. Vendor/contractor support can be used to perform collection, shipment and analysis of environmental sample media as described in Section B.8.c.

9. Iodine Monitoring

Field monitoring equipment has the capability to detect and measure airborne radioiodine concentrations as low as $1 \times 10^{-7} \mu\text{Ci}/\text{cm}^3$ in the presence of noble gases. Interference from the presence of noble gas and background radiation will be minimized by ensuring that monitoring teams move to areas of low background prior to analyzing the sample cartridge. The collected air sample is measured by hand held survey meter as an initial check of the projection derived from plant data to determine if significant quantities of elemental iodine have actually been released (the chemical form that would pose a health hazard).

10. Dose Estimates

Specific procedures exist for the correlation of air activity levels to dose rate for key isotopes. Provisions have been established for estimating integrated dose from the projected and actual dose rates and for the comparison of these estimates with the protective action guides.

11. State Monitoring Capabilities

The states have the ability to dispatch their own field monitoring teams to track the airborne radioactive plume. The states also have the ability and resources to coordinate with federal and utility monitoring teams to compare sample results.

Section J: Protective Response

Protective response consists of emergency actions, taken during or after an emergency situation, which are intended to minimize or eliminate hazards to the health and safety of the public and/or station personnel. A range of protective actions has been developed for emergency workers and the general public in the Plume Exposure Pathway EPZ. Additionally, guidelines have been established to aid in choosing protective actions during an emergency that are consistent with federal guidance. Three Mile Island is responsible for onsite actions, while the responsibility for offsite actions rests with the state, county, and other offsite response agencies.

1. Notification of Onsite Personnel

For all emergency classifications, all personnel within the Protected Area are notified within 15 minutes of the initial classification or escalation of an emergency by recognizable alarms and/or verbal announcements over the plant Public Address (PA) System. Announcements include the emergency classification and response actions to be taken by personnel onsite (such as ERO, non-ERO, contractor personnel, and visitors). Provisions are made to alert personnel in high noise areas and outbuildings within the Protected Area as applicable.

Three Mile Island has identified locations where people might be expected to be present outside the Protected Area but within the Owner Controlled Area. Accountability of persons within the Owner Controlled Area but outside the Protected Area is not required. However, provisions are established for notification of personnel within the Owner Controlled Area any time a Site Evacuation has been initiated, or as otherwise deemed appropriate.

2. Evacuation Locations

If a Site Evacuation is required, nonessential personnel are directed to either assemble within designated Assembly Areas or to immediately evacuate the site. Personnel will be directed to either proceed to their homes or to reassemble at designated offsite locations. Visitors to the station will assemble with and follow the instructions of their escorts. Nonessential personnel within the Protected Area will normally exit through the security building. Personal transportation (if available) will normally be used and established evacuation routes will be followed. Personnel without transportation will be identified and provided transportation as necessary.

3. Radiological Monitoring of Evacuees

Personnel evacuating the site will be monitored for contamination by the portal monitors as they exit the Protected Area, with portable friskers in Assembly Areas, or sent to offsite monitoring locations on an as needed basis.

4. Evacuation

Evacuation is the primary protective action anticipated for onsite personnel not having immediate emergency response assignments. Three Mile Island has identified locations that serve as Assembly Areas and offsite locations for non-essential personnel when they are not instructed to proceed home. The specific locations of these areas are shown in the Station Annex. Implementing procedures describe equipment, supplies and general operation of these facilities. The Station Emergency Director will designate personnel within the Site Boundary as essential or nonessential. Evacuation of non-essential personnel is usually conducted immediately after accountability if a Site Area Emergency or General Emergency has been declared and conditions permit. Evacuation shall commence in accordance with station procedures as directed by the Station Emergency Director or his/her designee, unless one of the following conditions exist:

- a. Severe weather conditions threaten safe transport.
- b. A significant radiological hazard would be encountered.
- c. There is a security threat occurring, which would have an adverse impact on the personnel while leaving the site.
- d. A condition similar to the above in magnitude, which in the opinion of the Station Emergency Director would adversely affect the site personnel.

Security forces will be dispatched, when available, to access road(s) to control entry to site facilities. Unauthorized and non-ERO personnel will be denied entry.

The initiation of a site evacuation will be reported to the appropriate state/local agency.

Exelon has established the implementation of alternate onsite protective actions for security-based events that are more appropriate than the actions for radiological emergencies. These alternate protective actions could include taking immediate cover, immediate protected area evacuation, immediate owner controlled area evacuation, and dispatch of the ERO to their alternate reporting center.

5. Accountability

The purpose of Accountability is to determine the locations of all personnel inside the Protected Area and to muster emergency personnel at prearranged locations. When Accountability of onsite personnel is determined to be necessary by the Station Emergency Director, all personnel within the protected area shall be accounted for and the names of missing individuals (if any) are determined within thirty (30) minutes of the announcement.

Accountability is usually performed in conjunction with Assembly, and is required to be initiated whenever a Site Area Emergency or higher classification is declared. The movement of personnel for the purposes of Accountability may be delayed if their health and safety could be in jeopardy, such as severe weather or for security concerns.

If it is determined that the prearranged Assembly Area is unfit for personnel, the Station Emergency Director may designate an alternative Assembly Area and direct personnel using appropriate communication systems that are available.

Once established, Accountability within the Protected Area is maintained throughout the course of the event. Should missing personnel be identified, search and rescue operations are initiated.

6. Provisions for Onsite Personnel

Three Mile Island maintains an inventory of respiratory protection equipment, anti-contamination clothing, and KI that is made available to emergency workers remaining onsite should conditions warrant. During the course of an emergency, protective actions are considered to minimize radiological exposures or contamination problems associated with all onsite personnel. For those who must work within the restricted area of the affected site, measures that are considered are:

- a. Use of Respirators: On-shift and emergency response personnel use respiratory protection in any environment involving exposure to high level gaseous activity or oxygen deficient atmosphere, or where air quality is in doubt. In the presence of airborne particulates, emergency response personnel may be directed by health physics personnel to use full-face filter type respirators. The criteria for issuance of respiratory protection are described in Radiation Protection procedures.
- b. Use of Protective Clothing: Anti-contamination clothing, located in the TSC, OSC and station dress out areas is available for use by onsite personnel. The criteria for issuance of protective clothing are described in Radiation Protection procedures.
- c. Use of Potassium Iodide (KI): The use of KI may be recommended when a projected dose of 50 Rem Committed Dose Equivalent (CDE) is exceeded for an emergency worker's thyroid. This is the value specified in EPA 400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents." Three Mile Island is responsible for maintaining a supply of KI onsite. The Station Emergency Director has the responsibility for approval of issuing KI to Exelon Nuclear emergency workers.

7. Mechanism for Implementing Protective Action Recommendations

Plant conditions, projected dose and dose rates, and/or field monitoring data are evaluated to develop PARs for the purpose of preventing or minimizing exposure to the general public. PARs are provided to the offsite agencies responsible for implementing protective actions for the general public within the 10-mile EPZ. PARs are approved by the Emergency Director in Command and Control.

In an emergency that requires immediate protective actions be taken prior to activation of the offsite emergency facilities, PARs are provided directly to the state and county 24 hour warning points by the Emergency Director.

8. Evacuation Time Estimates (ETEs)

The evacuation time estimates (ETE) were developed in accordance with NUREG/CR-7002, Criteria for Development of Evacuation Time Estimate Studies. Section IV of Appendix E to 10CFR50 requires that an analysis of the time required to evacuate be provided for various sectors and distances within the plume exposure pathway EPZ for transient and permanent residents which includes special facilities schools, nursing homes, hospitals, and recreational areas. The evacuation time estimate (ETE) is a calculation of the time to evacuate the plume exposure pathway emergency planning zone (EPZ), which is an area with a radius of about 10 miles around the station.

The ETE study used population data from the 2010 census. The evacuation times are based on a detailed consideration of the EPZ roadway network and population distribution. The ETE Study is contained in an addendum to the station Annex and presents evacuation times for daytime and nighttime scenarios under various weather conditions for the evacuation of various areas around the station.

Within 365 days of the availability of each decennial census data from the U.S. Census Bureau, each station shall develop an ETE analysis using this decennial data and submit it under 10CFR50.4 to the NRC. The ETE analysis shall be submitted to the NRC at least 180 days before using it to form protective action recommendations and providing it to State and local governmental authorities for use in developing offsite protective action strategies.

During the years between decennial censuses, EPZ permanent resident population changes are estimated once a year, but no later than 365 days from the date of the previous estimate, using the most recent U.S. Census Bureau annual resident population estimate and State/local government population data, if available. If at any time during the decennial period, the EPZ permanent resident population increases such that it causes the longest ETE value for the 2-mile zone or 5-mile zone, including all affected Emergency Response Planning Areas, or for the entire 10-mile EPZ to increase by 25 percent or 30 minutes, whichever is less, from the currently NRC approved or updated ETE, the ETE analysis will be updated to reflect the impact of that population increase. These estimates are available for NRC inspection during the period between decennial censuses and will be submitted to the NRC with any updated ETE analysis under 10CFR50.4 no later than 365 days after the determination that the criteria for updating the ETE have been met and at least 180 days before using it to form protective action recommendations and providing it to State and local governmental authorities for use in developing offsite protective action strategies.

9. Capability of Implementing Protective Action Recommendations

The responsibility for implementing protective measures based on protective action guides for the offsite population at risk is the responsibility of the state and local governments. Detailed procedures for public protective actions are contained in the state and other local radiological emergency response plans as appropriate.

The state agencies are responsible for evaluation of Exelon Nuclear recommended protective actions and preparing a recommendation to the Governor, or his/her appointed agent. Only when the state acts under the Governor's order does a recommended protective action become a directed protective action.

If the plant conditions are stable and offsite radiological conditions are such that the public health and safety are not endangered, then return to evacuated areas may be discussed with the affected state(s). State authorities are responsible for actually recommending return and transmitting this recommendation.

10. Implementation of Protective Action Recommendations

The utility, state, and county emergency plans used to implement the protective measures for the plume exposure pathway take numerous factors into consideration as stated in NUREG-0654 II.J. Among these considerations are:

- a. Most of the public evacuees are expected to travel in their own vehicles, leaving the EPZ via designated evacuation routes. The Station Annex shows the evacuation routes, EPZ Subareas and pre-selected sampling/monitoring points. The state and county plans contain official maps and information on the locations of off-site centers.
- b. The population distribution around the station. Population distribution for the plume exposure EPZ is illustrated in the Station Annexes.
- c. As indicated in Section E, offsite agencies are notified in the event the E-Plan is activated. State and county agencies have the capability to notify all members of the transient and resident population within the Plume Exposure Pathway EPZ.
- d-l. NUREG-0654 II.J.10.d-l items are addressed separately in state and county emergency plans.

- m. At a General Emergency classification, Exelon Nuclear will provide the state with recommendations for protective actions for the public. For incidents involving actual, potential, or imminent releases of radioactive material to the atmosphere, EPA 400-R-92-001, the NRC Response Technical Manual (RTM-96) and NUREG-0654, Supp. 3, Revision 1 are used as the basis for the general public PARs.

1) Plant Based PARs

Station specific PAR Flowcharts have been developed to aid Exelon Nuclear personnel providing PARs based on the above. Station specific PAR Flowcharts with Subarea or Sector tables are documented in the Exelon EP Implementing Procedures, including station-specific requirements regarding PAR determination. These flowcharts and tables provide technically based Protective Action Recommendations based on plant conditions indicators as applicable to the Exelon site and described within the implementing procedures. Possible plant based PARs issued by Exelon Nuclear, in support of NUREG-0654 Supp. 3, at a General Emergency could include as appropriate for the Station:

- Response to a Rapidly Progressing Severe Accident.
- Utilization of the staged evacuation concept as determined by station ETE's.
- Shelter of the general public in response to but not limited to impediments to evacuation, or Hostile Action event.
- Evacuation of the general public.

In addition to the above actions to minimize or prevent potential exposure to radiation, a recommendation of "monitor and prepare" will be issued for the remainder of the EPZ.

2) Dose Based PARs

Evacuation is recommended if projected doses reach the minimum EPA PAGs (≥ 1 Rem EPA TEDE¹ or ≥ 5 Rem CDE Thyroid).

Many assumptions exist in dose assessment calculations, involving both source term and meteorological factors, which make computer predictions over long distances highly questionable. However, in the event dose assessment results indicate the need to recommend actions beyond the outer EPZ boundaries, which is past 10 miles, Field Monitoring Teams are dispatched to downwind areas to verify the calculated exposure rates prior to issuing PARs outside the EPZ. In the event dose assessment results indicate the need to recommend actions beyond the outer EPZ boundaries (past 10 miles):

¹ EPA TEDE is defined as the sum of the doses from external exposure and inhalation from the plume, and from 4 days of external exposure to deposited materials.

- If Field Monitoring Teams have been dispatched from the site, then dose assessment exposure rates will be verified prior to issuing any recommended action.
- If Field Monitoring Teams have not been dispatched from the site, then issuing recommended actions will not be delayed waiting on Field Teams.

Exelon personnel normally do not have the necessary information to determine whether off site conditions would require sheltering instead of evacuation. External factors (such as road conditions, traffic/traffic control, weather, or offsite emergency response capabilities) are determined by the state.

11. Ingestion Pathway Protective Measures

The responsibility for specifying protective measures to be used for the ingestion pathway rests with the state. These measures include the methods for protecting the public from consumption of contaminated water and foodstuffs.

12. Monitoring of Evacuees

The state and county organizations have the capability to register and monitor evacuees at designated reception centers. This capability includes personnel and equipment capable of monitoring residents and transients evacuating from the plume exposure EPZ and arriving at the reception centers, in accordance with FEMA guidelines.

Section K: Radiological Exposure Control

This section of the plan describes the means for controlling emergency worker radiological exposures during an emergency, as well as the measures that are used by Exelon to provide necessary assistance to persons injured or exposed to radiation and/or radioactive materials. Exposure guidelines in this section are consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides described in EPA 400-R-92-001.

1. Emergency Exposure Guidelines

Being licensed by the NRC, all Exelon Nuclear generating stations maintain personnel exposure control programs in accordance with 10 CFR 20 under normal operating conditions. The Station Emergency Director is assigned the non-delegable responsibility for authorizing personnel exposure levels under emergency conditions per EPA-400. In emergency situations, workers may receive exposure under a variety of circumstances in order to assure safety and protection of others and of valuable property. These exposures will be justified if the maximum risks or costs to others that are avoided by their actions outweigh the risks to which the workers are subjected. The Emergency Worker Dose Limits are as follows:

Dose Limit (Rem TEDE)	Activity	Condition
0-5	All	Personnel should be kept within normal 10 CFR 20 limits during bona fide emergencies, except as authorized for activities as indicated below.
5-10	Protecting valuable property	Lower dose not practicable.
10-25	Lifesaving or protection of large populations	Lower dose not practicable.
> 25	Lifesaving or protection of large populations	Only on a voluntary basis to persons fully aware of the risks involved.

Limit dose to the lens of the eye to 3 times the above values and doses to any other organ (including skin and body extremities) to 10 times the above values.

Whenever possible, the concurrence of the Station's Radiation Protection (Department) Manager should be secured before exposing individuals to dose equivalents beyond the EPA-400 lower limit.

2. Emergency Radiation Protection Program

The TSC Radiation Protection Manager is the individual responsible for the implementation of the radiation protection actions during an emergency. Radiation protection guidelines include the following:

- Volunteers over forty-five years of age are considered first for any emergency response action requiring exposure greater than normal limits. Routine dose limits shall not be extended to emergency dose limits for declared pregnant individuals. As in the case of normal occupational exposure, doses received under emergency conditions should be maintained as low as reasonably achievable.
- Persons undertaking any emergency operation in which the dose will exceed 25 Rem TEDE should do so only on a voluntary basis and with full awareness of the risks involved including the numerical levels of dose at which acute effects of radiation will be incurred and numerical estimates of the risk of delayed effects.
- In the context of the emergency limits, exposure of workers that is incurred for the protection of large populations may be considered justified for situations in which the collective dose avoided by the emergency operation is significantly larger than that incurred by the workers involved.
- Exposure accountability is maintained and proper personnel radiological monitoring equipment is provided for all personnel during emergency conditions.
- Access to high radiation areas is only permitted with prior approval of the applicable Radiation Protection Manager. Personnel are not allowed to enter known or potential high radiation areas unless their exposure has been properly evaluated.
- Periodic habitability surveys of emergency facilities are performed during an emergency. If the facility is determined to be uninhabitable, the facility is evacuated in order to prevent or minimize exposure to radiation and radioactive materials. Alternate assembly areas are established, as necessary, to relocate and monitor evacuated personnel.

3. Personnel Monitoring

- a. Emergency workers will receive DLR badges and personal self-reading dosimeters capable of measuring expected exposures on a real time basis. The capability exists for the emergency processing of DLRs on a 24-hour per day basis, if necessary.
- b. Emergency worker dose records are maintained by the Radiation Protection Managers (as appropriate) in accordance with the emergency and radiological protection procedures. Emergency workers are instructed to read their dosimeters frequently. DLRs may be processed with increased periodicity.

4. Non-Exelon Personnel Exposure Authorization

The responsibility for authorizing non-Exelon emergency workers (i.e. state and local agency emergency workers) to receive exposures in excess of the EPA General Public Protective Action Guides rests with the state and county organizations, except when such emergency workers are onsite. Authorization of exposures in excess of EPA General Public Protective Action Guides, in this latter instance, rests with the Station Emergency Director.

5. Contamination and Decontamination

During an emergency, the Station Emergency Director is responsible for preventing or minimizing personnel exposure to radioactive materials deposited on the ground or other surfaces. Special consideration should be given to setting up contamination control arrangements for personnel entering the OSC after completion of assigned activities.

- a. During emergency conditions, normal plant contamination control criteria will be adhered to as much as possible. However, these limits may be modified by the applicable Radiation Protection Manager per existing Radiation Protection procedures, should conditions warrant.
- b. Contamination Control Means: Personnel found to be contaminated will normally be attended to at decontamination areas located onsite. Temporary decontamination areas can also be set up inside at various locations. Decontamination showers and supplies are provided onsite with additional personnel decontamination equipment and capabilities. Shower and sink drains in the controlled area are routed to the miscellaneous waste processing system where the liquid is processed and monitored prior to discharge. Potentially contaminated emergency vehicles will be surveyed before they are allowed to leave the plant or offsite assembly area. If the survey area is not suitable for monitoring and decontamination due to radiological or other concerns, vehicles will be surveyed at an alternate location.

6. Contamination Control Measures

Controls are established 24 hours per day to contain the spread of loose surface radioactive contamination.

- a. Contaminated areas are isolated as restricted areas with appropriate radiological protection and access control. Personnel leaving contaminated areas are monitored to ensure they and their clothing are not contaminated. If contamination above acceptable levels is found, they will be decontaminated in accordance with plant procedures. If normal decontamination procedures do not reduce personnel contamination to acceptable levels, the case will be referred to a competent medical authority. Supplies, instruments, and equipment that are in contaminated areas or have been brought into contaminated areas will be monitored prior to removal. If found to be contaminated, they will be decontaminated using normal plant decontamination techniques and facilities or may be disposed of as radwaste. Contaminated vehicles will be decontaminated before being released.

- b. Measures will be taken to control onsite access to potentially contaminated potable water and food supplies. Under emergency conditions when uncontrolled releases of activity have occurred, eating, drinking, smoking, and chewing are prohibited in all station emergency response facilities until such time as habitability surveys indicate that such activities are permissible.
- c. Restricted areas and contaminated items will be returned to normal use when contamination levels have been returned to acceptable levels. Contamination control criteria for returning areas and items to normal use are contained in the plant procedures.

7. Decontamination of Relocated Personnel

Nonessential onsite personnel may be evacuated to an offsite relocation center or assembly area, as discussed in Section J. Radiological controls personnel at that location monitor evacuees and determine the need for decontamination. Existing and temporary facilities to limit contamination and exposure will be utilized and established at the site as necessary during an emergency situation. In the event that decontamination of evacuees locally is not possible, personnel will be sent to designated locations for monitoring and decontamination. Provisions for extra clothing are made and suitable decontaminates are available for the expected type of contaminations, particularly with regards to skin contaminations.

Section L: Medical and Public Health Support

This section describes the arrangements for medical services for contaminated injured individuals sent from the station.

1. Offsite Hospital and Medical Services

Hospital personnel have been trained and hospitals are equipped to handle contaminated or radiation injured individuals. Specifically, training of medical support personnel at the agreement hospitals will include basic training on the nature of radiological emergencies, diagnosis and treatment, and follow-up medical care. Station personnel are available to assist medical personnel with decontamination radiation exposure and contamination control. Arrangements, by letter of agreement or contract, are maintained by Three Mile Island with a qualified hospital located in the vicinity of Three Mile Island for receiving and treating contaminated or exposed persons with injuries requiring immediate hospital care. Exelon Nuclear shall provide medical consultants to aid in any special care necessary at these facilities.

Arrangements are also maintained by the corporate office with a qualified medical facility well equipped and staffed for dealing with persons having radiation injuries and whenever necessary, such persons will be transferred to this hospital facility for extended specialized treatment. Exelon Nuclear will have available to the staff of this hospital, medical consultants who will provide the direction of the special care necessary for the treatment of persons having radiation injuries.

These agreements are verified annually. Refer to section II.P.4 for details.

2. Onsite First Aid Capability

Three Mile Island maintains onsite first aid supplies and equipment necessary for the treatment of contaminated or injured persons. In general, physicians or nurses are not staffed at Three Mile Island, and as such, medical treatment given to injured persons is of a "first aid" nature. Three Mile Island does have an industrial hygiene advisor. Additionally, the Radiation Protection Technicians at Three Mile Island are experienced in control of radioactive contamination and decontamination work. Station personnel are also trained and qualified to administer first aid. At least two of these individuals are available on shift at all times. The functions of station personnel in handling onsite injured people are:

- 1) Afford rescue;
- 2) Administer first aid including such resuscitative measures as are deemed necessary;
- 3) Begin decontamination procedures; and
- 4) Arrange for suitable transportation to a hospital when required.

Primary attention shall be directed to the actual factors involved in the treatment of casualties, such as: control of bleeding, resuscitation including heart and lung, control of bleeding after resuscitation, protection of wounds from bacterial or radioactive contamination and the immobilization of fractures.

Station personnel provide an initial estimate of the magnitude of surface contamination of the injured and preliminary estimates of total body dose to the injured. Primary rapid and simple decontamination of the surface of the body (when possible and advisable) before transportation to a designated hospital may be carry out as directed or performed by Radiation Protection personnel. When more professional care is needed, injured persons are transported to a local clinic or hospital. Contaminated and injured persons are transported to a dedicated specified facility.

3. Medical Service Facilities

Because of the specialized nature of the diagnosis and treatment of radiation injuries, Corporate Emergency Preparedness maintains an agreement with REAC/TS. REAC/TS is a radiological emergency response team of physicians, nurses, health physicists and necessary support personnel on 24-hour call to provide consultative or direct medical or radiological assistance at the REAC/TS facility or at the accident site. Specifically, the team has expertise in and is equipped to conduct: medical and radiological triage; decontamination procedures and therapies for external contamination and internally deposited radionuclides, including chelation therapy; diagnostic and prognostic assessments or radiation-induced injuries; and radiation dose estimates by methods that include cytogenetic analysis, bioassay, and in vivo counting.

In addition to REAC/TS, the Station Annex may identify additional medical consultants, based on agreements with local hospitals, to support personnel training and medical response.

4. Medical Transportation

Arrangements are made by Three Mile Island for prompt ambulance transport of persons with injuries involving radioactivity to designated hospitals. Such service is available on a 24-hour per day basis and is confirmed by letter of agreement. Radiation monitoring services shall be provided by Three Mile Island whenever it becomes necessary to use the ambulance service for the transportation of contaminated persons.

A qualified Radiation Protection person shall accompany the ambulance to the hospital. Additional Radiation Protection personnel may be contacted and dispatched to local hospitals to assist in the monitoring and decontamination of the injured victim and hospital and ambulance facilities and personnel.

Section M: Reentry and Recovery Planning

This section describes the measures to be taken for reentry into the areas of Three Mile Island which have been evacuated as a result of an accident. It also outlines the Exelon Nuclear Recovery Organization and its concepts of operation.

1. Reentry and Recovery

a. Evaluating Reentry Conditions

During an emergency, immediate actions are directed toward limiting the consequences of the accident to afford maximum protection to station personnel and the general public. Once corrective measures have been taken and effective control of the plant has been re-established, a more methodical approach to reentry is taken. This E-Plan divides reentry into two separate categories:

- Reentry *during the emergency phase of an accident* is performed to save a life, control a release of radioactive material, prevent further damage to plant equipment or restore plant equipment. If necessary, this category of reentry may be performed using emergency exposure limits. Briefings, rather than written radiation protection procedures, may be used when making these entries.

All reentry activities conducted during the emergency are authorized by the Station Emergency Director and coordinated by the OSC Director and the Radiation Protection Manager.

- Reentry *during the recovery phase of an accident* is performed using normal exposure limits. Either normal procedures or procedures that consider existing as well as potential conditions inside affected areas are developed specifically for each reentry.

Reentry activities during the recovery phase are authorized by the Recovery Director and coordinated by the recovery organization managers in charge of personnel making the reentry.

The following items are considered when planning for any reentry:

- Review of available radiation surveillance data to determine plant areas potentially affected by radiation and/or contamination.
- Review of radiation exposure history of personnel required to participate in the accident mitigation or recovery operations.
- Determination of the need for additional personnel and the sources of these additional personnel.
- Review of adequacy of radiation survey instrumentation and equipment (types, ranges number, calibration, etc.).

- Review of non-radiological hazards and required protective measures (e.g., fire, electrical, Hazmat).
- Pre-planning of activities and briefings for the reentry team that include the following:
 - Personnel knowledge requirements.
 - Methods and procedures that will be employed during the entry.
 - Specific tasks to be performed.
 - Anticipated radiation and contamination levels.
 - Radiation survey equipment and types and ranges of dosimetry required.
 - Shielding requirements and availability.
 - Appropriate communications.
 - Protective clothing and equipment requirements.
 - Access control procedures.
 - Decontamination requirements.
 - De-briefing requirements.
 - Respiratory protection.
- A review of security controls to prevent unauthorized or unintentional entry into hazardous areas.

b. Evaluating Entry into Recovery

The Recovery Phase is that period when major repairs are being performed to return the plant to an acceptable condition and the possibility of the emergency condition degrading no longer exists. Once the plant has been stabilized, contained and controlled, the Recovery Phase may be entered. It is the responsibility of the Station Emergency Director to classify Recovery after obtaining authorization from the Corporate Emergency Director.

Establishment of Recovery can be conducted from any emergency classification level. However, it is possible that the lower classifications of Unusual Event and Alert will conclude with the event being terminated. There may be cases where certain EAL initiating conditions remain exceeded, but the station is under control and no further danger of degradation exists. In such a case, it may be appropriate to enter Recovery. Site Area and General Emergencies will require a Recovery Phase to be established prior to event termination. Exelon Nuclear may consult with/notify cognizant governmental agencies prior to declaring Recovery or event termination.

Termination/Recovery considerations are contained in the implementing procedures to provide guidance for evaluating the risk of entering Recovery without alleviating the intent of the Initiating Condition. The purpose of Recovery is to provide the necessary personnel to handle the long-term activities and to return the plant to an acceptable condition.

The following conditions are guidelines for the determination of establishing Recovery (this is not intended to be a complete list and additional criteria may apply, depending on the specifics of the event):

- The risk to the health and safety of the public has been mitigated.
- Plant parameters and equipment status have been established and controlled.
- In-plant radiation levels are stable or decreasing, and acceptable, given the plant conditions.
- The potential for uncontrolled releases of radioactive material to the environment has been eliminated.
- Environmental monitoring has been established.
- The radioactive plume has dissipated and plume tracking is no longer required (the only environmental assessment activities in progress are those necessary to assess the extent of deposition resulting from passage of the plume).
- Exelon Nuclear workers have been protected.
- Any security threat has been neutralized, and/or plant security is under the direction of Exelon Nuclear personnel.
- Adequate plant safety systems are operable.
- The fuel pool damage has been mitigated, or spent fuel damage has been contained and controlled.

- Plant systems and equipment are restored and/or replaced such that plant conditions are stable highly unlikely to degrade further.
- Conditions that initiated the emergency have been contained, controlled, eliminated or stabilized such that the classification is no longer applicable.
- The operability and integrity of radioactive waste systems, decontamination facilities, power supplies, electrical equipment and of plant instrumentation including radiation monitoring equipment.
- Any fire, flood, earthquake or similar emergency condition or threat to security no longer exists.
- All required notifications have been made.
- Discussions have been held with federal, state and county agencies and agreement has been reached to terminate the emergency.
- At an Alert or higher classification, the ERO is in place and emergency facilities are activated.
- Any contaminated injured person has been treated and/or transported to a medical care facility.
- Offsite conditions do not unreasonably limit access of outside support to the station and qualified personnel and support services are available.

It is not necessary that all conditions listed above be met; however, all items must be considered prior to entering the recovery phase. For example, it is possible after a severe accident that some conditions remain that exceed an Emergency Action Level, but entry into the Recovery Phase is appropriate.

2. Recovery Organization

Once plant conditions have been stabilized and the Recovery Phase has been initiated, the Emergency Director may form a Recovery Organization for long-term operations. These types of alterations will be discussed with the NRC prior to implementation.

- For events of a minor nature, (i.e. for Unusual Event classifications) the normal on shift organization is normally adequate to perform necessary recovery actions.
- For events where damage to the plant has been significant, but no offsite releases have occurred and/or protective actions were not performed, (i.e. for Alert classifications) the station Emergency Response Organization, or portions thereof, should be adequate to perform the recovery tasks prior to returning to the normal station organization.

- For events involving major damage to systems where offsite radioactive releases have occurred, (i.e. for Site Area Emergency or General Emergency classifications) the station recovery organization is put in place.

The specific members of the station recovery organization are selected based on the sequence of events that preceded the recovery activities as well as the requirements of the recovery phase. The basic framework of the station recovery organization is as follows:

- a. The Recovery Director: The Corporate Emergency Director is initially designated as the Recovery Director. The Recovery Director is charged with the responsibility for directing the activities of the station recovery organization. These responsibilities include:
 - Ensuring that sufficient personnel, equipment, or other resources from Exelon and other organizations are available to support recovery.
 - Directing the development of a recovery plan and procedures.
 - Deactivating any of the plant Emergency Response Organization which was retained to aid in recovery, in the appropriate manner. Depending upon the type of accident and the onsite and offsite affects of the accident, portions of the ERO may remain in place after initiation of the recovery phase.
 - Coordinating the integration of available federal and state assistance into onsite recovery activities.
 - Coordinating the integration of Exelon support with federal, state and county authorities into required offsite recovery activities.
 - Approving information released by the public information organization which pertains to the emergency or the recovery phase of the accident.
 - Determining when the recovery phase is terminated.
- b. The Recovery Plant Manager: The Station Manager or a designated alternate will become the Recovery Plant Manager. The Recovery Plant Manager reports to the Recovery Director and is responsible for:
 - Coordinating the development and implementation of the recovery plan and procedures.
 - Ensuring that adequate engineering activities to restore the plant, are properly reviewed and approved.
 - Directing all onsite activities in support of the station recovery effort.
 - Designating other Exelon recovery positions required in support of onsite recovery activities.

- c. The Recovery Offsite Manager: A senior Corporate Emergency Preparedness or Regulatory Affairs individual, or a designated alternate, is the Recovery Offsite Manager. The Recovery Offsite Manager reports to the Recovery Director and is responsible for:
- Providing liaison with offsite agencies and coordinating Exelon assistance for offsite recovery activities.
 - Coordinating Exelon ingestion exposure pathway EPZ sampling activities and the development of an offsite accident analysis report.
 - Developing a radiological release report.
 - Designating other Exelon recovery positions required in support of offsite recovery activities.
- d. The Company Spokesperson: A senior Exelon management individual is designated as the Company Spokesperson. The Company Spokesperson reports to the Recovery Director and is responsible for:
- Functioning as the official spokesperson to the press for Exelon on all matters relating to the accident or recovery.
 - Coordinating non-Exelon public information groups (federal, state, county, etc.).
 - Coordinating media monitoring and rumor control.
 - Determining what public information portions of the ERO will remain activated.

The remainder of the recovery organization is established and an initial recovery plan developed at the end of the emergency phase or just after entry into the recovery phase. Consideration is given to recovery activity needs and use of the normal station organizations. Individual recovery supervisors may be designated in any or all of the following areas:

- Training
- Radiation Protection
- Chemistry
- Technical/Engineering Support
- Nuclear Oversight
- Operations
- Security
- Maintenance

- Special Offsite Areas (Community Representatives, Environmental Samples, Investigations, etc.)

3. Recovery Phase Notifications

When the decision is made to enter the recovery phase, all members of the Exelon ERO are informed of the change. All Exelon personnel are instructed of the Recovery Organization and their responsibilities to the recovery effort.

4. Total Population Exposure

Total population exposure calculations are performed and periodically updated during the recovery phase of an accident. A method has been developed for estimating the total population exposure resulting from the accident from data collected in cooperation with the state and other federal agencies. Total population exposure is determined through a variety of procedures including:

- Examination of pre-positioned dosimeters.
- Bioassay.
- Estimates based on release rates and meteorology.
- Estimates based on environmental monitoring of food, water, and ambient dose rates.

The state will be the lead agency in the collection and analysis of environmental air, soil, foliage, food, and water samples and for the generation of radiation monitoring reports. Exelon Nuclear environmental sampling activities will be coordinated with state efforts, as requested, and results shared with cognizant agencies.

Section N: Drill and Exercise Program

This section describes the Drill and Exercise Program that Exelon Nuclear has implemented to:

- Verify the adequacy of the Emergency Preparedness Program.
- Develop, maintain, and evaluate the capabilities of the ERO to respond to emergency conditions and safeguard the health and safety of station personnel and the general public.
- Identify deficiencies in the E-Plan and the associated procedures, or in the training of response personnel, and ensure that they are promptly corrected.
- Ensure the continued adequacy of emergency facilities, supplies and equipment, including communications networks.

The Exercise Cycle is defined as an eight-year period of time until the performance of the first evaluated Hostile Action based exercise. Following performance of the first Hostile Action based exercise, the cycle duration time changed from a six-year period to an eight-year period. Per Section IV.F.2.j of 10CFR50 Appendix E, the first eight-year exercise cycle for a site will begin in the calendar year in which the first hostile action exercise is conducted (but no later than December 31, 2015). During each eight calendar year exercise cycle, sites shall vary the content of scenarios during exercises to provide the opportunity for the ERO to demonstrate proficiency in the key skills necessary to respond to the following scenario elements:

- hostile action directed at the plant site,
- no radiological release or an unplanned minimal radiological release that does not require public protective actions,
- an initial classification of or rapid escalation to a Site Area Emergency or General Emergency,
- implementation of strategies, procedures, and guidance developed under § 50.54(hh)(2), and integration of offsite resources with onsite response.

Exelon uses drill and exercise scenarios that provide reasonable assurance that anticipatory responses do not result from preconditioning of participants. Such scenarios include a wide spectrum of radiological releases and events, including hostile action

1. Exercises**a. Biennial Exercises**

Federally prescribed exercises are conducted at Three Mile Island in order to test the adequacy of timing and content of implementing procedures and methods; to test emergency equipment and communication networks; and to ensure that emergency personnel are familiar with their duties. Exercises involving offsite agency participation, required under Section F.2.c & d to 10 CFR 50 Appendix E, are conducted based on FEMA-REP-14 guidance and the state and local emergency response plans.

Partial participation means appropriate offsite authorities shall actively take part in the exercise sufficient to test direction and control functions to include protective action decision making related to Emergency Action Levels and communication capabilities among affected state and local authorities and Exelon Nuclear.

Full participation exercises will include appropriate offsite local and state authorities and Exelon personnel physically and actively taking part in testing the integrated capability to adequately assess and respond to an accident at the plant. Additionally, full participation exercises will include testing the major observable portions of the onsite and offsite emergency plans and mobilization of state, local, and Exelon personnel and other resources in sufficient numbers to verify the capability to respond to the accident scenario.

Where partial or full participation by offsite agencies occurs, the sequence of events simulates an emergency that results in the release of radioactivity to the offsite environs, sufficient in magnitude to warrant a response by offsite authorities.

b. Off-Year Exercises

An Off-Year Exercise is conducted at each station during the calendar year when an NRC Evaluated Exercise is not scheduled. An Off-Year Exercise shall involve a combination of at least two facilities in order to demonstrate at least two of the functions of management and coordination of emergency response, accident assessment, protective action decision-making, or plant system repair and corrective actions. For Off-Year Exercises involving no or limited participation by offsite agencies, emphasis is placed on development and conduct of an exercise that is more mechanistically and operationally realistic. Players will be able, by implementing appropriate procedures and corrective actions, to determine the outcome of the scenario to a greater extent than when core damage and the release of radioactivity are prerequisites for demonstration of all objectives.

c. Pre-Exercises

Pre-Exercise Drills should be conducted prior to a Biennial Exercise where Federal Emergency Management Agency (FEMA) evaluation of state and local performance is expected. Pre-Exercise Drills may be conducted prior to Off-Year Exercises that only involve the utility. The Pre-Exercise is a training and experience tool for the participants to sharpen awareness and practice skills necessary to accomplish specific E-Plan duties and responsibilities.

Exercises provide an opportunity to evaluate the ability of participating organizations to implement a coordinated response to postulated emergency conditions. Exercises are conducted to ensure that all major elements of the E-Plan and preparedness program are demonstrated at least once in each exercise cycle. Each station shall conduct at least one off-hours exercise between 6:00 p.m. and 4:00 a.m. every exercise cycle. Weekends and holidays are also considered off-hours periods. Provisions will be made for qualified personnel from Exelon, federal, state, or local governments to observe and critique each exercise as appropriate.

2. Drills

In addition to the exercises described above, Exelon conducts drills for the purpose of testing, developing, and maintaining the proficiency of emergency responders. Drills are scheduled on the Emergency Preparedness annual events plan, which contains provisions for the following drills:

a. Communication Drills

- Monthly - The capability of the Nuclear Accident Reporting System (NARS) to notify the state and local government warning points and EOCs within the plume exposure pathway EPZ are demonstrated. Also, the capability to notify the NRC is demonstrated using the Emergency Notification System (ENS) and the Health Physics Network (HPN) where available.
- Quarterly - The capability to notify the NRC Region, FEMA Region, American Nuclear Insurers (ANI) and federal emergency response organizations as listed in the Emergency Response Facilities (ERF) Telephone Directory are demonstrated from the EOF. Also, computer and critical communications equipment shall be functionally tested.

Communications between states outside the 10 mile EPZ but within the 50-mile EPZ are tested by the host state.

- Annually - The emergency communications systems outlined in Section F are fully tested. This includes (1) communications between the plant and the state and local EOCs and Field Monitoring Teams, and (2) communications between the CR, the TSC, and the EOF.

Each of these drills includes provisions to ensure that all participants in the test are able to understand the content of the messages.

- b. Fire Drills: Fire drills shall be conducted at Three Mile Island in accordance with Station Technical Specifications and/or Station procedures.
- c. Medical Emergency Drills: A medical emergency drill, involving a simulated contaminated individual, and containing provisions for participation by local support services organizations (i.e., ambulance and support hospital) are conducted annually. Local support service organizations, which support more than one station, shall only be required to participate once each calendar year. The offsite portions of the medical drill may be performed as part of the required biennial exercise.
- d. Radiological Monitoring Drills: Plant environs and radiological monitoring drills (onsite and offsite) are conducted annually. These drills include collection and analysis of all sample media (such as, water, vegetation, soil, and air), and provisions for communications and record keeping.
- e. Health Physics Drills: Health Physics Drills involving a response to, and analysis of, simulated airborne and liquid samples and direct radiation measurements within the plant are conducted semi-annually. At least annually, these drills shall include a demonstration of the sampling system capabilities.
- f. Augmentation Drills: Augmentation drills serve to demonstrate the capability of the process to augment the on-shift staff with a TSC, OSC and EOF in a short period after declaration of an emergency. These drills are conducted using the following methods:
 - Quarterly, each station will initiate an unannounced off-hours ERO augmentation drill where no actual travel is required. Each region's Corporate ERO shall also perform an unannounced off-hours ERO augmentation drill that may be conducted independent of, or in conjunction with, a station drill.
 - At least once per exercise cycle, an off-hours unannounced activation of the ERO Notification System with actual response to the emergency facilities is conducted by each station. Each region's Corporate ERO need only participate once per cycle.
- g. Accountability Drills: Accountability drills are conducted annually. The drill includes identifying the locations of all individuals within the protected area.

3. Conduct of Drills and Exercises

Advance knowledge of the scenario will be kept to a minimum to allow "free-play" decision making and to ensure a realistic participation by those involved. Prior to the drill or exercise, a package will be distributed to the controllers and evaluators that will include the scenario, a list of performance objectives, and a description of the expected responses.

For each emergency preparedness exercise or drill conducted, a scenario package is developed that includes at least the following:

- a. The basic objective(s) of the drill or exercise and the appropriate evaluation criteria.
- b. The date(s), time period, place(s), and participating organizations.
- c. The simulated events.
- d. A time schedule of real and simulated initiating events.
- e. A narrative summary describing the conduct of the scenario to include such things as simulated casualties, offsite fire department assistance, rescue of personnel, use of protective clothing, deployment of radiological monitoring teams, and public information activities.
- f. A description of the arrangements for and advance materials to be provided to official observers.

Prior approval by the appropriate station management is obtained for all drills and exercises conducted in support of the Emergency Preparedness Program.

4. Critique and Evaluation

Drill and exercise performance objectives are evaluated against measurable demonstration criteria. As soon as possible following the conclusion of each drill or exercise, a critique is conducted to evaluate the ability of the ERO to implement the E-Plan and procedures.

A formal written critique report is prepared by Emergency Preparedness following a drill or exercise involving the evaluation of designated objectives or following the final simulator set with ERO participation. The report will evaluate the ability of the ERO to respond to a simulated emergency situation. The report will also contain corrective actions and recommendations.

Biennially, representatives from the NRC observe and evaluate the licensee's ability to conduct an adequate self-critical critique. For partial and full offsite participation exercises both the NRC and FEMA will observe, evaluate, and critique.

Critique comments identified by participants during a training drill where objectives are not formally being evaluated will be reviewed and dispositioned by Emergency Preparedness, but do not require a formal report.

5. Resolution of Drill and Exercise Findings

The critique and evaluation process is used to identify areas of the Emergency Preparedness Program that require improvement. The Emergency Preparedness Manager is responsible for evaluation of recommendations and comments to determine which items will be incorporated into the program or require corrective actions, and for the scheduling, tracking, and evaluation of the resolution to the items.

Whenever exercises and/or drills indicate deficiencies in the E-Plan or corresponding implementing procedures, such documents will be revised as necessary.

Remedial exercises will be required if the emergency plan is not satisfactorily tested during the Biennial Exercise, such that NRC, in consultations with FEMA, cannot find reasonable assurance that adequate protective measures can be taken in the event of a radiological emergency. The extent of State and local participation in remedial exercises must be sufficient to show that appropriate corrective measures have been taken regarding the elements of the plan not properly tested in the previous exercises.

Section O: Emergency Response Training

This section describes the emergency response training that is provided to those who may be called upon in an emergency. It outlines the training provided by Exelon Nuclear to both its employees and offsite support personnel requiring site access.

1. Assurance of Training

The E-Plan Training Program assures the training, qualification, and requalification of individuals who may be called on for assistance during an emergency. Specific emergency response task training, prepared for each E-Plan position, is described in lesson plans and study guides. The lesson plans, study guides, and written tests are contained in the ERO Training Program. Responsibilities for implementing the training program are contained in plant procedures. Exelon personnel who are assigned an E-Plan position will receive retraining at a frequency of once per calendar year not to exceed 18 months between training sessions.

Offsite training is provided to support organizations that may be called upon to provide assistance in the event of an emergency. The following outlines the training received by these organizations:

- a. Emergency Preparedness shall annually train, or document an annual written offer to train, those non-Exelon Nuclear organizations referenced in the Station Annex that may provide specialized services during a nuclear plant emergency (e.g., local law enforcement, fire-fighting, medical services, transport of injured, etc.). The training made available is designed to acquaint the participants with the special problems potentially encountered during a nuclear plant emergency, notification procedures and their expected roles. Those organizations that must enter the site shall also receive site-specific emergency response training and be instructed as to the identity (by position and title) of those persons in the onsite organization who will control their support activities.
- b. Training of offsite emergency response organizations is described in their respective radiological emergency plans, with support provided by Exelon Nuclear as requested.

2. Functional Training of the ERO

In addition to general and specialized classroom training, members of the Three Mile Island ERO receive periodic performance based emergency response training. Performance based training is provided using one or more of the following methods:

- Familiarization Sessions: A familiarization session is an informal, organized tabletop discussion of predetermined objectives.
- Walk Throughs: Consists of a facility walk through to familiarize plant ERO personnel with procedures, communications equipment, and facility layout. Walk throughs also provide the opportunity to discuss facility activities, responsibilities and procedures with an instructor.

- Drills: A drill is a supervised instruction period aimed at testing, developing and maintaining skills in a particular operation. Drills described in Section N of this plan are a part of training. These drills allow each individual the opportunity to demonstrate the ability to perform their assigned emergency functions. During drills, on-the-spot correction of erroneous performance may be made and a demonstration of the proper performance offered by the Controller.

3. First Aid Response

Selected station personnel are trained in accordance with the Exelon Nuclear approved First Aid Program. First-Aid Teams will likely be augmented with additional personnel such as Fire Brigade Members and other personnel qualified to assist in the rescue.

4. Emergency Response Organization Training Program

Three Mile Island ERO personnel who are responsible for implementing this plan receive specialized training. The training program for emergency response personnel is developed based on the requirements of 10 CFR 50, Appendix E and position specific responsibilities as defined in this document.

On-Shift emergency response personnel perform emergency response activities as an extension of their normal duties and are trained annually as part of their duty specific training. Additional Emergency Preparedness information is provided as part of the Station Nuclear General Employee Training.

New ERO personnel receive an initial overview course that familiarizes them with the E-Plan by providing basic information in the following areas as well as specific information as delineated in the sections below:

- Planning Basis
- Emergency Classifications
- Emergency Response Organization and Responsibilities
- Call-out of Emergency Organization
- Emergency Response Facilities
- Communications Protocol/Emergency Public Information
- Offsite Organizations

Emergency response personnel in the following categories receive knowledge and/or performance based training initially and retraining thereafter once per calendar year not to exceed 18 months between training sessions.

- a. Directors, Managers and Coordinators within the station and corporate ERO: Personnel identified by the Emergency Response Organization Telephone Directory as Directors, Managers and Coordinators for the station and corporate EROs receive training appropriate to their position in accordance with the approved ERO Training Program. These personnel receive specialized training in the areas of:

- Notifications
- Emergency Classifications
- Protective Action Recommendations
- Emergency Action Levels
- Emergency Exposure Control

Selected Directors, Managers, Coordinators and Shift Emergency Directors receive training in accordance with the approved ERO Training Program. Training in accident assessment sufficient to classify an event and to mitigate the consequences of an event are also covered.

- b. Personnel Responsible for Accident Assessment:

The skills and knowledge required to perform plant stabilization and mitigation are a normal function of operations specific positions, as identified in Section B of this plan. Subsequent plant stabilization and restoration is pursued utilizing normal operating procedures. Qualified Operators receive routine training to ensure proficiency in this area.

- 1) Control Room Personnel shall have training conducted in accordance with the approved ERO Training Program such that proficiency is maintained on the topics listed below. These subjects shall be covered as a minimum on an annual basis.

- Event Classification.
- Protective Action Recommendations.
- Radioactive Release Rate Determination.
- Notification form completion and use of the Nuclear Accident Reporting System (NARS).
- Federal, state and local notification procedures as appropriate.
- Site specific procedures for activating the onsite and offsite ERO.

To remove peripheral duties from the Operations shift, the following group of positions responsible for accident assessment, corrective actions, protective actions, and related activities receive the training listed below:

c. Radiological Monitoring Teams and Radiological Analysis Personnel

- 1) Offsite Radiological Monitoring: Offsite radiological monitoring is performed by trained individuals who provide samples and direct readings for dose assessment calculations and dose projection comparisons.

Personnel identified as members of Field Monitoring Teams receive training in accordance with the approved training program. Field Monitoring Team members receive classroom and hands-on training in the following areas:

- Equipment and Equipment Checks
 - Communications
 - Plume Tracking Techniques
- 2) Personnel Monitoring: Personnel monitoring is performed by trained individuals who monitor station personnel and their vehicles for contamination during an emergency. Personnel Monitoring Team members receive classroom and hands-on training in the following areas:
- Personnel Monitoring Equipment and Techniques
 - Decontamination Techniques for Personnel
 - Decontamination Techniques for Vehicles
- 3) Dose Assessment: Dose Assessment training includes the skills and knowledge necessary for calculation and interpretation of an offsite release and its impact on the environment under varying meteorological conditions. Individuals responsible for performing dose assessment are trained in the following areas:
- Computerized Dose Assessment
 - Protective Action Recommendations
 - Field Monitoring Team Interface
 - Protective Action Guidelines associated with offsite plume exposure doses
 - Basic Meteorology

d. Police, Security, and Fire Fighting Personnel

- 1) Local Police and Fire Fighting Personnel: The local Police and Fire Departments are invited to receive training as outlined in Part 1.a of this section.
- 2) Security Personnel: Station security personnel are trained in accordance with training defined by the Nuclear General Employee Training (NGET) and Exelon Nuclear Security Program.
- 3) Fire Control Teams (fire brigades): Station fire brigades are trained in accordance with training defined by the Exelon Nuclear Fire Protection Program. Fire Brigade personnel are considered the primary members of rescue teams and will receive the appropriate EP training as part of their training program. Training also includes rescue of personnel from hazardous environments.

e. Repair and Damage Control Teams: Operations, Maintenance and Radiation Protection personnel are trained as part of their normal job specific duties to respond to both normal and abnormal plant operations.

Operations personnel are trained to: (1) recognize and to mitigate degrading conditions in the plant, (2) mechanically and electrically isolate damaged or malfunctioning equipment, (3) isolate fluid leaks, and (4) minimize transients.

Maintenance personnel are trained to troubleshoot and repair damaged or malfunctioning electrical, mechanical, or instrumentation systems as appropriate to their job classification.

Radiation Protection personnel are trained to assess the radiological hazards associated with equipment repair and instruct personnel as to the appropriate protective clothing requirements, respiratory protection requirements, stay times, and other protective actions specific to the conditions present.

At least 50% of personnel from those departments, who are potential responders to the OSC as Damage Control Team members, are required to be qualified in the use of respiratory protection equipment. This includes in-plant supervision and craft/technicians for the following departments:

- Operations
- Radiation Protection/Chemistry
- Maintenance (mechanical, electrical and I&C)

f. First Aid and Rescue Personnel: First aid and rescue team members receive training as outlined in Part 3 of this section.

- g. Local Support Service Personnel: Local support service personnel providing assistance during an emergency are invited to receive training as outline in Parts 1.a and 1.b of this section.
- h. Medical Support Personnel: Onsite medical personnel receive specialized training in the handling of contaminated victims and hospital interface. Offsite ambulance and hospital personnel are offered annual training in accordance with a program provided by Emergency Preparedness.
- i. Public Information Personnel: Corporate and station personnel responsible for disseminating emergency public information and responding to media and public information requests receive specialized public information training.
- j. Communications Personnel: ERO personnel receive training on communications protocol as a part of the initial Emergency Response Overview Course. Personnel using specialized communications equipment that is not part of their normal daily function receive initial and requalification training on the equipment. Personnel involved in notifications to offsite agencies receive specialized training in the notification process.

5. General, Initial, and Requalification Training Program Maintenance

- a. Station Departments and Emergency Preparedness share the responsibility for ensuring that the ERO receives all necessary training and retraining. In order to carry this out, responsibilities are assigned as follows:

Corporate Responsibilities for Corporate ERO Personnel

- Scheduling and conducting initial, retraining, and make-up classes.
- Acting as the sole contact point for ensuring attendance.
- Record keeping for the training courses, including dates of scheduled classes and non-attendance information.
- Verifying that all emergency response personnel training records are current.
- Ensure instructional materials are prepared and reviewed every two years.

Station Responsibilities for Station ERO Personnel

- Station management shall ensure the attendance of onsite personnel for training, including required E-Plan courses.
- Each Station shall conduct onsite emergency personnel initial and retraining for station Emergency Response Personnel using approved lesson plans.

- The Station Training Department shall provide those shift personnel included in a continuing training program an annual review of the following items as a minimum:
 - Assembly Areas
 - Emergency Response Facility assignment
 - Potential Hazards (radiological and non-radiological)
 - Anticipated actions including assembly requirements, protective equipment requirements (clothing, masks, SCBA, etc.), the use of KI, emergency exposure limits and accountability requirements.
- b. Initial and Regualification ERO Training: The proficiency of emergency response personnel (as defined in 10 CFR 50 Appendix E) is ensured by the following means:
 - Assigning persons to emergency duties that are similar to those performed as a part of their regular work assignment or experience.
 - Initial training and annual retraining on applicable generic and site-specific portions of the E-Plan and the corresponding implementing procedures. Individuals not demonstrating the required level of knowledge in initial or retraining classes receive additional training on the areas requiring improvement. Annual retraining is conducted **once** per calendar year not to exceed 18 months between training sessions.
 - Training is required for changes to the Emergency Plan and Station Annexes that are not editorial or minor in nature including changes that impact the resources, capabilities, or methods associated with Planning Standards, Program Elements, or 10CFR50 Appendix E, and modify program requirements or commitments. Training on E-Plan changes shall be completed within one hundred twenty (120) days of implementation of the change.
 - Participation in exercises and/or drills as developed or authorized by the Emergency Preparedness Department and designed to sharpen those skills that they are expected to use in the event of a nuclear emergency.

All personnel assigned position specific responsibilities in the ERO are documented by inclusion in the Emergency Response Organization Telephone directory listing of positions and personnel.

- c. Nuclear General Employee Training (NGET): All personnel with unescorted station access are provided with initial orientation training on the notification and instruction methods used in the event of an emergency. Additionally, all badged individuals also receive initial orientation on the basic principles of radiological safety including the effects of radiation and the theory and use of radiation detection devices. Appropriate actions for escorted individuals shall be the responsibility of the escort. NGET provides initial and annual requalification training on the basic elements of the E-Plan for all personnel working at the plant. Specifically, these elements include:
- Station emergency alarms and their meaning
 - Assembly areas
 - Site and Exclusion Area Evacuation procedures
 - Special precautions and limitations during an emergency
 - Purpose of the E-Plan

Section P: Responsibility for the Maintenance of the Planning Effort

This section describes the responsibilities for development, review and distribution of the E-Plan and actions that must be performed to maintain the emergency preparedness program. It also outlines the criteria for insuring that personnel who perform the planning are properly trained.

1. Emergency Preparedness Staff Training

The Emergency Preparedness staff is involved in maintaining an adequate knowledge of state of the art planning techniques and the latest applications of emergency equipment and supplies. At least once each calendar year each member of the Emergency Preparedness staff is involved in one of the following activities:

- Training courses specific or related to emergency preparedness.
- Observation of or participation in drills and/or exercises at other stations.
- Participation in industry review and evaluation programs.
- Participation in regional or national emergency preparedness seminars, committees, workshops or forums.
- Specific training courses in related areas, such as systems, equipment, operations, radiological protection, or Problem Identification & Resolution (PI&R).

2. Authority for the Emergency Preparedness Effort

The Plant Manager is responsible for the safe and reliable operation of the station. The issuance and control of this plan and the activities associated with emergency preparedness at Three Mile Island shall be the overall responsibility of the Vice President, Fleet Support. This individual is assigned the responsibility for overall implementation of the E-Plan and Station Annexes.

3. Responsibility for Development and Maintenance of the Plan

Each regional Emergency Preparedness Manager is responsible for the overall radiological emergency preparedness program associated with the operation of the nuclear power stations within their respective region and to administer the program to ensure availability of resources in the event of an emergency. The regional Emergency Preparedness Managers report to an EP Director who in turn reports to the Vice President, Fleet Support.

The Emergency Preparedness Managers are assisted by regional corporate and Station Emergency Preparedness staff. Specific responsibilities include the following:

Program Administration

- Develop and maintain the E-Plan, Station Annex, implementing procedures and administrative documents.
- Develop and maintain 50.54(q) evaluations for changes to EP documents.
- Coordinate and maintain the EP Activities Schedule.
- Develop and maintain working relationships and coordinate meetings with Federal, state and local agencies.
- Ensure integration of plans between Exelon and offsite agencies.
- Provide an opportunity to discuss Emergency Action Levels and the availability of Nuclear Oversight audit results relating to interface with governmental agencies.
- Coordinate, negotiate and maintain agreements and contracts with offsite agencies and support organizations.
- Obtain Letters of Agreement with medical facilities, and medical consultants specifically skilled in the medical aspects of radiation accidents and other medical consultants as might be necessary for the case of a person involved in a radiation incident.
- Coordinate the development and annual distribution of the station's public information publication.
- Coordinate and administer the Self Evaluation Program to monitor and evaluate the adequacy of the Emergency Preparedness Program.
- Coordinate and support EP Self-Assessments, Audits and Inspections.
- Ensure the documentation and resolution of adverse conditions in the emergency preparedness program discovered through drills, audits, etc. in accordance with the Exelon Nuclear Corrective Action Program.
- Coordinate and develop Operational Experience responses.
- Coordinate, document and review Performance Indicator data and reports.
- Provide oversight of Drill and Exercise Performance (DEP) evaluations during Operator Requalification Training.
- Coordinate and conduct EP Event reviews and reports.

- Maintain adequate documentation/files to support EP activities.
- Develop and manage the EP budget.
- Maintain the Emergency Response Facilities (ERF) Telephone Directory.

Drills and Exercises

- Coordinate and maintain the EP Drill and Exercise Schedule.
- Coordinate and conduct exercises and drills.
- Coordinate NRC, FEMA, state, and local exercise scheduling and development activities.
- Coordinate drill and exercise scenario development activities.
- Develop and publish drill and exercise scenario manuals.
- Coordinate and perform controller and evaluator functions for drills and exercises.
- Coordinate response cells for drills and exercises.
- Develop and issue drill and exercise reports.

Facilities and Equipment

- Provide maintenance and administration of the Alert and Notification System (ANS).
- Provide maintenance of the ERO call-out system.
- Ensure the Emergency Response Facilities are maintained in a constant state of readiness.
- Coordinate and review the EP equipment inventories.
- Coordinate and conduct maintenance and testing of the communications systems.
- Maintain the EP computer applications.

ERO Qualification and Administration

- Develop and maintain ERO Lesson Plans, Examinations, and Qualification Cards.
- Maintain EP NGET training content.

- Coordinate, schedule and conduct ERO qualification and requalification training.
- Oversee the maintenance of ERO training records.
- Maintain and coordinate publishing of the ERO Duty Rosters.
- Provide adequate oversight and support for the training of offsite response personnel.
- Coordinate conduct of Emergency Medical Assistance Program training.
- Coordinate annual training for the media.

The Three Mile Island Plant Manager is responsible for implementation of the E-Plan at Three Mile Island. The Plant Manager has the following responsibilities for maintenance of the Emergency Preparedness Program:

- Ensure the adequate staffing and training of station ERO members.
- Schedule and conduct drills and exercises to maintain the state of readiness of the Emergency Preparedness Program.
- Ensure the operational readiness of station facilities and communication systems for use during an emergency.
- Ensure the operational readiness of station emergency equipment and supplies is maintained.
- Ensure the emergency response procedures and the training and retraining of Station Emergency Response personnel are maintained.

4. E-Plan and Agreement Revisions

The E-Plan, its Annex, and supporting Agreements are reviewed on an annual basis. This review may also include applicable state and local emergency response agencies based on established agreements.

The annual E-Plan review/update includes required changes identified during audits, assessments, training, drills, and exercises. The Emergency Preparedness Director is responsible for determining which recommended changes are incorporated into a plan or emergency procedure revision. In those years when the review does not warrant a revision, a letter to that affect will be issued.

The E-Plan and its Annex shall be revised as needed and the most current approved revisions shall remain in effect so long as they are certified as current. Revisions to the E-Plan are reviewed by the Station's Plant Operational Review Committee (PORC) prior to approval. Changes to the plan are made without NRC approval only if such changes do not result in a reduction in effectiveness of the plan per 10 CFR 50.54(q), and the plan as changed continues to meet the standards of 10 CFR 50.47(b) and the requirements of 10 CFR 50, Appendix E. Proposed changes that reduce or have a potential to reduce the effectiveness of the approved plan are not implemented without prior approval by the NRC.

- Proposed revisions to the E-Plan and Station Annex shall be completed in accordance with the Exelon Nuclear review and approval processes.
- E-Plan and Station Annex changes shall be categorized as (1) minor/administrative or (2) significant programmatic changes. Minor/administrative changes shall be implemented within 30 days of approval. Significant programmatic changes shall be implemented as soon as practical and within 60 days of final approval.
- After review and approval, the E-Plan and Station Annex shall be:
 - a) Reviewed by the applicable Emergency Preparedness Manager(s) and EP Director, or designee(s), and
 - b) Approved for use by the Vice President, Fleet Support or designee.
- The Implementing Procedures shall be developed and revised concurrent with the E-Plan and Annex, and reviewed every two years.

Annually, each Letter of Agreement is reviewed and certified current in order to assure the availability of assistance from each supporting organization not already a party to the individual State Plan for Radiological Accidents.

5. E-Plan Distribution

E-Plan manuals, Station Annex, and implementing procedures are distributed on a controlled basis to the Emergency Response Facilities. All controlled documents holders are issued revision changes upon approval. Selected Federal, state, and local agencies, and other appropriate locations requiring them are also issued copies. Procedures are in place that control the revision of the E-Plan and require the use of revision bars and individual page identifications (i.e. section of plan, revision number, etc.).

6. Supporting Emergency Response Plans

Other plans that support this E-Plan are:

- NUREG-1471, US Nuclear Regulatory Commission, "Concept of Operations: NRC Incident Response"

- National Response Framework (NRF), Nuclear/Radiological Incident Annex.
- Commonwealth of Pennsylvania Radiological Emergency Response Plan.
- Nuclear Station Security Plans - Note: The Station Security Plan contains industrial security information that must be withheld from public disclosure under provisions of 10 CFR 2.790(d).

7. Implementing and Supporting Procedures

Appendix 2 of this plan contains a listing, by number and title, of those procedures that implement this plan during an emergency. Additionally, administrative procedures that outline the steps taken to maintain the Exelon Emergency Preparedness Program have been developed and are listed in Appendix 2.

8. Cross Reference to Planning Criteria

The Plan is formatted in the same manner as NUREG-0654, FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in support of Nuclear Power Plants." The use of this format lends itself to uncomplicated comparison of the criteria set forth in NUREG-0654, FEMA-REP-1.

9. Audit/Assessment of the Emergency Preparedness Program

To meet the requirements of 10 CFR 50.54(t), Exelon Nuclear Oversight shall coordinate an independent review the Emergency Preparedness Program to examine conformance with 10 CFR 50.47, 10 CFR 50.54, and 10 CFR 50 Appendix E. Included in the audit/assessment are the following:

- The E-Plan and associated implementing procedures.
- The Emergency Preparedness Training Program including drills and exercises.
- The readiness of the station Emergency Response Organization to perform its function.
- The readiness of facilities and equipment to perform as outlined in the plan and procedures.
- The interfaces between Exelon, the state, and county governmental agencies pertaining to the overall Emergency Preparedness Program.

Results of this audit are submitted for review to Corporate Management and the Plant Manager. The Emergency Preparedness Manager ensures that any findings that deal with offsite interfaces are reviewed with the appropriate agencies. Written notification will be provided to the state and counties of the performance of the audit and the availability of the audit records for review at Exelon facilities. Records of the audit are maintained for at least five years.

10. Maintenance of Emergency Organization Telephone Directory

Names and phone numbers of the Emergency Response Organization and support personnel shall be reviewed and updated at least quarterly.

Appendix 1: References

References consulted in the writing of this E-Plan are listed in this section. With exception of regulatory requirements, inclusion of material on this list does not imply adherence to all criteria or guidance stated in each individual reference.

1. 10 CFR 50.47, Emergency Plans
2. 10 CFR 50.72, Immediate Notification Requirements for Operating Nuclear Power Reactors
3. 10 CFR 50 Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants
4. 10 CFR 50 Appendix E, Emergency Planning and Preparedness for Production and Utilization Facilities
5. 10 CFR 20, Standards for Protection Against Radiation
6. 10 CFR 70, 73, and 100.
7. 33 CFR 153.
8. 40 CFR 110, 112, 116, 118, 302 and 355.
9. 44 CFR 350.
10. 44 CFR 401.
11. 49 CFR 171 and 172.
12. NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, November, 1980.
13. NUREG-0654, Supplement 1, "Criteria for Utility Offsite Planning and Preparedness."
14. NUREG-0654, Supplement 3, "Criteria for Protective Action Recommendations for Severe Accidents."
15. NUREG-0396, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," Dec. 1978.
16. NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations."
17. NUREG-0696, Revision 1, Functional Criteria for Emergency Response Facilities

18. NUREG-0737, Clarification of TMI Action Plan Requirements, dated October 1980.
19. NUREG-0737, Supplement 1, Requirements for Emergency Response Capability, December 1982.
20. NUREG 0728 - "Report to Congress: NRC Incident Response Plan."
21. US NRC Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors," revision 4, July, 2003.
22. U.S. NRC Response Technical Manual (RTM-96)
23. NEI 99-01, Methodology for Development of Emergency Action Levels.
24. EPA 400-R-92-001, October 1991, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents."
25. FEMA-REP-10, Guide for Evaluation of Alert and Notification Systems for Nuclear Power Plants
26. FEMA-REP-14, Exercise Evaluation Methodology
27. FEMA-Guidance Memorandum, MS-1 "Medical Services"
28. Exelon Nuclear Quality Assurance Topical Report (QATR), NO-AA-10
29. "Federal Bureau of Investigation and Nuclear Regulatory Commission Memorandum of Understanding for Cooperation Regarding Threat, Theft, or Sabotage in U.S. Nuclear Industry," Federal Register, Vol. 44, p. 75535, December 20, 1979.
30. "Voluntary Assistance Agreement By and Among Electric Utilities involved in Transportation of Nuclear Materials," dated November 1, 1980.
31. Comprehensive Environmental Response, Compensation and Liability Act of 1980.
32. Accidental Radioactive Contamination of Human Food and Animal Feeds; Recommendation for State and Local Agencies, Volume 47, No. 205, October 22, 1982.
33. American Nuclear Insurers Bulletin #5B (1981), "Accident Notification Procedures for Liability Insureds".
34. "Potassium Iodide as a Thyroid Blocking Agent in a Radiation Emergency: Final Recommendations on Use," Federal Register Vol. 47, No. 125, June 29, 1982.
35. Letter from William J. Dircks, Executive Director for Operations, NRC, to Dr. Donald F. Knuth, President KMC, Inc. dated October 26, 1981.

36. Babcock and Wilcox Company, Post Accident Sample Offsite Analysis Program (1982).
37. ANI/MAELU Engineering Inspection Criteria For Nuclear Liability Insurance, Section 6.0, Rev. 1, "Emergency Planning."
38. NRC RIS 2006-12, Endorsement of Nuclear Energy Institute Guidance "Enhancement to Emergency Preparedness Programs for Hostile Action."
39. NRC Bulletin 2005-02, "Emergency Preparedness and Response Actions for Security-Based Events."
40. NRC Information Notice 2009-01, National Response Framework

Appendix 2: Procedure Cross-Reference to NUREG-0654

Criteria	Planning Standard	Procedure/Document
NUREG-0654.II.A	Assignment of Responsibility (Organization Control)	EP-AA-120, Emergency Plan Administration
		Letters of Agreement
NUREG-0654.II.B	Onsite Emergency Organization	EP-AA-112, Emergency Response Organization (ERO) / Emergency Response Facility (ERF) Activation and Operation
NUREG-0654.II.C	Emergency Response Support and Resources	EP-AA-112-400, Emergency Operations Facility Activation and Operations
NUREG-0654.II.D	Emergency Classification System	EP-AA-111, Emergency Classification and Protective Action Recommendations
NUREG-0654.II.E	Notification Methods and Procedures	EP-AA-114, Notifications
NUREG-0654.II.F	Emergency Communications	EP-AA-114, Notifications
		EP-AA-124, Inventories and Surveillances
NUREG-0654.II.G	Public Education and Information	EP-AA-120, Emergency Plan Administration
NUREG-0654.II.H	Emergency Facilities and Equipment	EP-AA-112, Emergency Response Organization (ERO) / Emergency Response Facility (ERF) Activation and Operation
		EP-AA-121, Emergency Response Facilities and Equipment Readiness
		EP-AA-120-1006, EP Reportability – Loss of Emergency Preparedness Capabilities
		EP-AA-123, Computer Programs
		EP-AA-124, Inventories and Surveillances
		EP-AA-125-1004, Emergency Response Facilities & Equipment Performance Indicators Guidance
NUREG-0654.II.I	Accident Assessment	EP-AA-110, Assessment of Emergencies
		EP-AA-123, Computer Programs
NUREG-0654.II.J	Protective Response	EP-AA-113, Personnel Protective Actions
		EP-AA-123, Computer Programs
NUREG-0654.II.K	Radiological Exposure Control	EP-AA-110, Assessment of Emergencies
		EP-AA-113, Personnel Protective Actions
NUREG-0654.II.L	Medical and Public Health Support	EP-AA-120, Emergency Plan Administration
NUREG-0654.II.M	Recovery and Reentry Planning and Post-Accident Operations	EP-AA-115, Termination and Recovery
		EP-AA-120-1002, Offsite Readiness Evaluation
NUREG-0654.II.N	Exercises and Drills	EP-AA-122, Drills & Exercises Program
		EP-AA-125-1001, EP Performance Indicator Guidance
		EP-AA-125-1002, ERO Performance – Performance Indicators Guidance

Criteria	Planning Standard	Procedure/Document
		EP-AA-125-1003, ERO Readiness - Performance Indicators Guidance
NUREG-0654.II.O	Radiological Emergency Response Training	TQ-AA-113, ERO Training And Qualification
NUREG-0654.II.P	Responsibility for the Planning Effort: Development, Periodic Review and Distribution of Emergency Plans	EP-AA-1, Emergency Preparedness
		EP-AA-10, Emergency Preparedness Program Description
		EP-AA-11, Operating Stations Emergency Preparedness Process Description
		EP-AA-1101, EP Fundamentals
		EP-AA-1102, ERO Fundamentals
		EP-AA-120, Emergency Plan Administration
		EP-AA-125, Emergency Preparedness Self Evaluation Process
		Emergency Response Facilities Telephone Directory

Appendix 3: List of Corporate Letters of Agreements**Organization/Agreement Type**

Department Of Energy (DOE) Radiation Emergency
Assistance Center/Training Site, REAC/TS (Letter on File)
Medical Consultant

Environmental, Inc. (P.O.)
Radiological Environmental Monitoring

Landauer, Inc. (P.O.)
Emergency Dosimetry

Murray & Trettel, Inc. (P.O.)
Meteorological Support

Teledyne Brown Engineering (P.O.)
Bioassay Analysis/Radiochemical Analysis

Red Alert Service (P.O.)
Fire Foam Supply

Appendix 4: Glossary of Terms and Acronyms

Accident Assessment	Accident assessment consists of a variety of actions taken to determine the nature, effects and severity of an accident and includes evaluation of damage assessment reports, meteorological observations, seismic observations, fire reports, radiological dose projections, in plant radiological monitoring, and environmental monitoring.
Activation	(1) "ERO Activation" is the process of initiating actions to notify and mobilize Emergency Response Organization (ERO) personnel following an event classification under the emergency plan. (2) "Facility Activation" refers to the decision to consider a facility fully operational based on the minimum staffing required in ERO staffing tables contained within the station specific Annex and the ability of facility staffing and equipment to perform its designed function(s).
Annual	Frequency of occurrence equal to once per calendar year, January 1 to December 31.
Assembly/Accountability	A procedural or discretionary protective action taken for all persons within the security "Protected Area", which involves the gathering of personnel into pre-designated areas, and the subsequent verification that the location of these personnel is known.
Assessment Actions	Those actions taken during or after an emergency to obtain and process information that is necessary to make decisions to implement specific emergency measures.
Biennial	Frequency of occurrence equal to once per two calendar year periods.
Biennial Exercise	An event that tests the integrated capability and a major portion of the basic elements existing within an emergency plan. An exercise usually involves participation of personnel from state and local governments, utility personnel, and may involve participation of Federal government personnel.

Classification	The classification of emergencies is divided into FIVE (5) categories or conditions, covering the postulated spectrum of emergency situations. The first four (4) emergency classifications are characterized by Emergency Action Levels (EALs) or event initiating conditions and address emergencies of increasing severity. The fifth, the Recovery classification, is unique in that it may be viewed as a phase of the emergency, requiring specific criteria to be met and/or considered prior to its declaration.
Command and Control	When in Command and Control, the designated Emergency Director (Shift, Station or Corporate) has overall responsibility for Exelon Nuclear's emergency response efforts, including the nondelegable responsibilities of Command and Control.
Committed Dose Equivalent (CDE)	The Dose Equivalent to organs or tissues of reference that will be received from an intake of radioactive material by an individual during the 50-year period following the intake.
Corrective Action	Those emergency measures taken to lessen or terminate an emergency situation at or near the source of the problem, to prevent an uncontrolled release of radioactive material, or to reduce the magnitude of a release. Corrective actions include, equipment repair or shutdown, installation of emergency structures, fire fighting, repair, and damage control.
Damage Assessment	Estimates and descriptions of the nature and extent of damages resulting from an emergency or disaster; of actions that can be taken to prevent or mitigate further damage; and of assistance required in response and recovery efforts based on actual observations by qualified engineers and inspectors.
Damage Control	The process of preventing further damage from occurring and preventing the increase in severity of the accident.
Decontamination	The reduction or removal of contaminated radioactive material from a structure, area, material, object, or person. Decontamination may be accomplished by (1) treating the surface so as to remove or decrease the contamination; (2) letting the material stand so that the radioactivity is decreased as a result of natural decay; and (3) covering the contamination.

Dedicated Communications	A communications link between two or more locations, access to which is limited to designated locations, and used only for the purpose intended. The communications link may be either telephone or radio.
Deep Dose Equivalent (DDE)	The dose equivalent at a tissue depth of 1 cm (1000 mg/cm ²); applies to external whole body exposure.
Dose	A generic term that means absorbed dose, dose equivalent, effective dose equivalent, deep dose equivalent, committed dose equivalent, committed effective dose equivalent, or total effective dose equivalent.
Dose Equivalent (DE)	The product of the absorbed dose in tissue, quality factor, and all other necessary modifying factors at the location of interest. The unit of dose equivalent is the Rem.
Dose Projection	The calculated estimate of a radiation dose to individuals at a given location (normally off-site), determined from the source term/quantity of radioactive material (Q) released, and the appropriate meteorological dispersion parameters (X/Q).
Dose Rate	The amount of ionizing (or nuclear) radiation to which an individual would be exposed per unit of time. As it would apply to dose rate to a person, it is usually expressed as rems per hour or in submultiples of this unit, such as millirems per hour. The dose rate is commonly used to indicate the level of radioactivity in a contaminated area.
Dosimeter	An instrument such as a Dosimeter of Legal Record (DLR), self-reading pocket dosimeter (SRPD), or electronic dosimeter (ED) for measuring, registering, or evaluating total accumulated dose or exposure to ionizing radiation.
Dosimeter of Legal Record (DLR)	Specific station type dosimeters used for monitoring personnel and the environment.
Drill	A supervised instruction period aimed at testing, developing and maintaining skills in a particular operation.
Early Phase	The period at the beginning of a nuclear incident when immediate decisions for effective use of protective actions are required and must be based primarily on predictions of radiological conditions in the environment. This phase may last from hours to days. For the purposes of dose projections it is assumed to last four days.

Emergency Action Levels (EALs)	A pre-determined, site-specific, observable threshold for a plant Initiating Condition that places the plant in a given emergency class. An EAL can be an instrument reading; an equipment status indicator; a measurable parameter (onsite or offsite); a discrete, observable event; or another phenomenon which, if it occurs, indicates entry into a particular emergency class.
Emergency Alert System (EAS)	A network of broadcast stations and interconnecting facilities which have been authorized by the Federal Communications Commission to operate in a controlled manner during a war, state of public peril or disaster, or other national or local emergency. In the event of a nuclear reactor accident, instructions/notifications to the public on conditions or protective actions would be broadcast by state or local government authorities on the EAS.
Emergency Director	Individual in Command and Control. One of the following: the Shift Emergency Director (Control Room), Station Emergency Director (TSC) or the Corporate Emergency Director (EOF).
Emergency Notification System (ENS)	The NRC Emergency Notification System hot line is a dedicated telephone system that connects the plant with NRC headquarters in White Flint, Maryland. It is directly used for reporting emergency conditions to NRC personnel.
Emergency Operations Facility (EOF)	Designated location from which the Licensee Emergency Response Organization conducts the company's overall emergency response in coordination with Federal, State and designated emergency response organizations.
Emergency Operating Procedures (EOPs)	EOPs are step-by-step procedures for direct actions taken by qualified operators to mitigate and/or correct an off normal plant condition through the control of plant systems.
Emergency Operations Center (EOC)	A facility designed and equipped for effective coordination and control of emergency operations carried out within an organization's jurisdiction. The site from which civil government officials (municipal, county, state, and Federal) exercise direction and control in a civil defense emergency.
Emergency Personnel	Those organizational groups that perform a functional role during an emergency condition. Within Exelon Nuclear, emergency personnel include the Managers and Directors of the Emergency Response Organization, accident assessment personnel, radiological monitoring teams, fire brigades, first aid teams and security personnel.

Emergency Planning Zones (EPZ)	That area surrounding a nuclear station in which emergency planning is conducted for the protection of the public. With respect to protecting the public from the plume exposure resulting from an incident, the EPZ is usually an area with a radius of about 10 miles surrounding the facility. With respect to the ingestion exposure pathway, the EPZ is usually an area with a radius of about 50 miles.
Emergency Preparedness	A state of readiness that provides reasonable assurance that adequate protective measures can and will be taken upon implementation of the E-Plan in the event of a radiological emergency.
Environmental Monitoring	The use of radiological instruments or sample collecting devices to measure and assess background radiation levels and/or the extent and magnitude of radiological contamination in the environment around the plant. This may be done in various stages such as pre-operational, operational, emergency, and post operational.
Essential Personnel	Essential personnel are those needed to achieve the goals and tasks as deemed necessary by the Station Emergency Director.
Evacuation	The urgent removal of people from an area to avoid or reduce high level, short-term exposure usually from the plume or from deposited activity.
Exclusion Area	An Exclusion Area is an area specified for the purpose of reactor site evaluation in accordance with 10 CFR 100. It is an area of such size that an individual located at any point on its boundary for two hours immediately following onset of the postulated release would not receive a total radiation dose to the whole body in excess of 25 rem or a total radiation dose of 300 rem to the thyroid from iodine exposure.
Exercise	An event that tests the integrated capability of a major portion of the basic elements existing within emergency preparedness plans and organizations.
Exercise Cycle	A six-year period of time until the performance of the first evaluated Hostile Action based exercise. Following performance of the Hostile Action based exercise, the cycle duration time will change from a six-year period to an eight-year period.

Hazardous Material	A substance or material which has been determined by the United States Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated in 49 CFR 172.
Health Physics Network (HPN) Line	In the event of a Site Area Emergency, the NRC HPN line will be activated by the NRC Operations center in White Flint, Maryland. This phone is part of a network that includes the NRC Regional Office and the NRC Operations Headquarters in White Flint, Maryland. This system is dedicated to the transmittal of radiological information by plant personnel to NRC Operations Center and the Regional office. HPN phones are located in the TSC and EOF.
Imminent	Mitigation actions have been ineffective and trended information indicates that the event or condition will occur within 2 hours.
Ingestion Exposure Pathway	The potential pathway of radioactive materials to the public through consumption of radiologically contaminated water and foods such as milk or fresh vegetables. Around a nuclear power plant this is usually described in connection with the 50-mile radius Emergency Planning Zone (50 mile EPZ).
Initiating Condition	A predetermined UNIT condition where either the potential exists for a radiological emergency or such an emergency has occurred.
Integrated Drill	A drill conducted in the year that a Biennial Exercise is not scheduled including at least two Emergency Response Facilities in order to demonstrate at least two of the functions of management and control of emergency response, accident assessment, protective action decision-making, or plant system repair and corrective action.
Intermediate Phase	The period beginning after the source and releases have been brought under control and reliable environmental measurements are available for use as a basis for decisions on additional protective actions.

Joint Information Center	A Corporate Emergency Facility activated by Exelon and staffed by Exelon, state, and Federal Public Information personnel. This facility serves as the single point of contact for the media and public to obtain information about an emergency.
Late Phase	The period beginning when recovery action designed to reduce radiation levels in the environment to acceptable levels for unrestricted use are commenced and ending when all recovery actions have been completed. This period may extend from months to years (also referred to as the recovery phase).
Local Evacuation	The evacuation of personnel from a particular area, such as a room or building.
Low Population Zone (LPZ)	As defined in 10 CFR 100.3, the area immediately surrounding the exclusion area which contains residents, the total number and density of which are such that there is a reasonable probability that appropriate protective measures could be taken in their behalf in the event of a serious accident.
Main Control Room	The operations center of a nuclear power plant from which the plant can be monitored and controlled.
Monthly	Frequency of occurrence equal to once per calendar month.
Non-Essential Site Personnel	Those personnel not needed for the continuing existence or functioning of the ERO. They are personnel not required to fill certain positions in the ERO. Identification of non-essential personnel is circumstance-oriented as determined by the Station Emergency Director.
Notification, Public	Public notification means to communicate instructions on the nature of an incident that prompted the public alerting/warning and on protective or precautionary actions that should be taken by the recipients of the alert. A state and local government process for providing information promptly to the public over radio and TV at the time of activating the alerting (warning) signal (sirens). Initial notifications of the public might include instructions to stay inside, close windows, and doors, and listen to radio and TV for further instructions. Commercial broadcast messages are the primary means for advising the general public of the conditions of any nuclear accident. (See Emergency Alert System.)

Off-Site	The area around a nuclear generating station that lies outside the station's "site boundary".
Offsite Dose Calculation Manual (ODCM)	The ODCM presents a discussion of the following: 1. The ways in which nuclear power stations can affect their environment radiologically 2. The regulations which limit radiological effluents from the nuclear power stations; and 3. The methodology used by the nuclear power stations to assess radiological impact on the environment and compliance with regulations.
On-Site	The area around a nuclear generating station that lies within the station's "site boundary".
Owner Controlled Area	Company owned property on which a Nuclear Station is located and may include Exelon Nuclear leased lands adjacent to that Nuclear Station.
Operations Support Center (OSC)	An emergency response facility at the Plant to which support personnel report and stand by for deployment in an emergency situation.
Personnel Monitoring	The determination of the degree of radioactive contamination on individuals, using standard survey meters, and/or the determination of dosage received by means of dosimetry devices.
Plume Exposure Pathway	The potential pathway of radioactive materials to the public through: (a) whole body external exposure from the plume and from deposited materials, and (b) inhalation of radioactive materials.
Population-at-Risk	Those persons for whom protective actions are being or would be taken. In the 10-mile EPZ the population-at-risk consists of resident population, transient population, special facility population, and industrial population.
Potassium Iodide	(Symbol KI) A chemical compound that readily enters the thyroid gland when ingested. If taken in a sufficient quantity prior to exposure to radioactive iodine, it can prevent the thyroid from absorbing any of the potentially harmful radioactive iodine-131.

Potential	Mitigation actions are not effective and trended information indicates that the parameters are outside desirable bands and not stable or improving.
Projected Dose	That calculated dose that some individuals in the population group may receive if no protective actions are implemented. Projected doses are calculated to establish an upper limit boundary.
Protected Area	That onsite area within the security boundary as defined in each station's Security Plan.
Protection Factor (PF)	The relation between the amount of radiation that would be received by a completely unprotected person compared to the amount that would be received by a protected person such as a person in a shielded area. $PF = \text{Shielded dose rate} / \text{Unshielded dose rate}$.
Protective Action	Those emergency measures taken for the purpose of preventing or minimizing radiological exposures to affected population groups.
Protective Action Guide (PAG)	Projected radiological dose values to individuals in the general population that warrant protective action. Protective Action Guides are criteria used to determine if the general population needs protective action regarding projected radiological doses, or from actual committed (measured) dose values.
Protective Action Recommendations (PARs)	Recommended actions to the States for the protection of the offsite public from whole body external gamma radiation, and inhalation and ingestion of radioactive materials. Access control and other recommendations concerning the safeguards of affected food chain processes may be issued by the States as PARs.
Public Alerting/Warning	The process of signaling the public, as with sirens, to turn on their TV's or radios and listen for information or instructions broadcast by state or local government authorities on the Emergency Alert System (EAS).
Quarterly	Frequency of occurrence equal to once in each of the following four periods: January 1 through March 31; April 1 through June 30; July 1 through September 30; October 1 through December 31.

Recovery	The process of reducing radiation exposure rates and concentrations of radioactive material in the environment to levels acceptable for unconditional occupancy or use.
Release	A ' <i>Release in Progress</i> ' is defined as <u>ANY</u> radioactive release that is a result of, or caused by, the emergency event.
Restricted Area	Any area, access to which is controlled by Exelon for purposes of protection of individuals from exposure to radiation and radioactive materials.
Restricted Area Boundary	For classification and dose projection purposes, the boundary is a 400-meter (1/4-mile) radius around the plant. The actual boundary is specified in the ODCM.
Safety Analysis Report, Updated Final (UFSAR)	The UFSAR is a comprehensive report that a utility is required to submit to the NRC as a prerequisite and as part of the application for an operating license for a nuclear power plant. The multi-volume report contains detailed information on the plant's design and operation, with emphasis on safety-related matters.
Semi-Annual	Frequency of occurrence equal to once in each of the following periods: January 1 through June 30; July 1 through December 31.
Shall, Should, and May	The word "shall" is used to denote a requirement, the word "should" to denote a recommendation and the word "may" to denote permission, neither a requirement nor a recommendation.
Shielding	Any material or barrier that attenuates (stops or reduces the intensity of) radiation.
Site Boundary	Three Mile Island's Site Boundary is described in detail in the ODCM.
Site Evacuation	The evacuation of non-essential personnel from the plant site.
Source Term	Radioisotope inventory or amount of radioisotope released to the environment, often as a function of time.
Technical Support Center (TSC)	A center outside of the Control Room in which information is supplied on the status of the plant to those individuals who are knowledgeable or responsible for engineering and management support of site operations in the event of an emergency, and to those persons who are responsible for management of the on-site emergency response.

Threshold Value	Measurable, observable detailed conditions which must be satisfied to determine an EAL applicability.
Thyroid Blocking Agent	An agent which when properly administered to an individual will result in sufficient accumulation of stable iodine in the thyroid to prevent significant uptake of radioiodine. Potassium Iodide is such an agent.
Total Effective Dose Equivalent (TEDE)	The sum of the deep dose equivalent (for external exposure) and the committed effective dose equivalent (for internal exposure) and 4 days of deposition exposure.
Unrestricted Area	Any area to which access is not controlled by the licensee for protecting individuals from exposure to radiation and radioactive materials, and any area used for residential quarters.
Vital Areas	Areas within the station security fence which contain vital equipment. Examples include Control Rooms, Reactor Buildings, Turbine Buildings and Electrical Equipment Rooms.
Vital Equipment	Any equipment, system, device or material, the failure, destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation. Equipment or systems which would be required to function to protect public health and safety following such failure, destruction, or release are also considered to be vital.
Weekly	Frequency occurrence equal to once per calendar week: Monday through Sunday.

Any abbreviation followed by a lower case 's' denotes the plural form of the term.

ACRONYMS

ac	alternating current
ALARA	as low as reasonably achievable
ANI	American Nuclear Insurers
ANS.....	Alert and Notification System
ANSI.....	American National Standards Institute
ARM	Area Radiation Monitor
ASLB.....	Atomic Safety Licensing Board
CB	citizen band
cc.....	cubic centimeter
CDE.....	Committed Dose Equivalent
CEOC.....	County Emergency Operation Center
CFR.....	Code of Federal Regulations
CHRMS	Containment High Range Monitoring System
CHRRMS	Containment High Range Radiation Monitoring System
cm2	square centimeter
CNO	Chief Nuclear Officer
cpm	count per minute
CR	Control Room
CRO	Control Room Operator
CRT.....	Cathode Ray Tube
Cs.....	Cesium
dc	direct current
DEP.....	Drill and Exercise Performance
DEQ	Department of Environmental Quality
DER/BRP	Dept of Environmental Resources, Bureau of Radiation Protection (PA)

DFO.....	Disaster Field Office
DGI.....	Digital Graphics Incorporated
DHFS	Department of Health and Family Services
DLR	Dosimeter of Legal Record
DOE	U. S. Department of Energy
DOT.....	U. S. Department of Transportation
DPH.....	Department of Public Health
dpm	disintegration per minute
EAL	Emergency Action Level
EAS.....	Emergency Alerting System
EMA	Emergency Management Agency
ENC.....	Emergency News Center
ENS.....	Emergency Notification System (NRC)
EOC	Emergency Operations (or Operating) Center
EOF.....	Emergency Operations Facility
EOP.....	Emergency Operating Procedure
EPA.....	U. S. Environmental Protection Agency
EPDS	Emergency Preparedness Data System
EPZ	Emergency Planning Zone
ERF	Emergency Response Facility
ESF	Engineered Safety Feature
FEMA	Federal Emergency Management Agency
FRMAC	Federal Radiological Monitoring and Assessment Center
FRMAP.....	Federal Radiological Monitoring and Assessment Plan
FRPCC.....	Federal Radiological Preparedness Coordinating Committee
FSAR.....	Final Safety Analysis Report

Ge	Germanium
GET	General Employee Training
GM	Geiger Mueller (radiation detection tube)
HEPA	high efficiency particulate air
HPN.....	Health Physics Network (NRC)
hr	hour
I	Iodine
JIC.....	Joint Information Center
LGEOC.....	Local Government Emergency Operations Center
Li	Lithium
LPZ.....	Low Population Zone
MAELU.....	Mutual Atomic Energy Liability Underwriters
MCP	Municipal Command Post
mR.....	milliroentgen
NARS	Nuclear Accident Reporting System
NCRP	National Council on Radiation Protection
NOP	Nuclear Organization Procedure
NRC	U. S. Nuclear Regulatory Commission
NRF.....	National Response Framework
NRR	Nuclear Reactor Regulation (NRC)
NWS.....	National Weather Service
NSRAC.....	Nuclear Safety Review and Audit Committee
OSC	Operations Support Center
PAG.....	Protective Action Guide
PANS	Prompt Alert and Notification System
PAR.....	Protective Action Recommendation

PASS.....	Post Accident Sampling System
PEMA.....	Pennsylvania Emergency Management Agency
QATR	Quality Assurance Topical Report
R.....	roentgen
RAA.....	Remote Assembly Area (off-site)
RAC.....	Regional Advisory Committee (FEMA)
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
RMS	Radiation Monitoring System
SCBA	Self Contained Breathing Apparatus
SEOC	State Emergency Operations Center
SFCP.....	State Forward Command Post
SGTS	Standby Gas Treatment System
SPCC	Spill Prevention Control and Countermeasure
SPDS	Safety Parameter Display System
Sr.....	Strontium
SRC.....	State Radiological Coordinator
SSC.....	State Staging Center
TDD.....	Telecommunications Device for the Deaf
TEDE.....	Total Effective Dose Equivalent
TSC.....	Technical Support Center
μCi.....	microcurie
UFSAR	Updated Final Safety Analysis Report

Attachment 3

**Three Mile Island Nuclear Station
Proposed Revision to Site Radiological Emergency Plan**

Exhibit D

Three Mile Island Radiological Emergency Plan Annex
(Procedure EP-AA-1009)
(Clean Version)

EXELON NUCLEAR

RADIOLOGICAL EMERGENCY PLAN ANNEX

FOR THREE MILE ISLAND (TMI) STATION

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REVISION HISTORY

<u>REVISION</u>	<u>REVISION DATE</u>
0	February 2002
1	May 2003
2	September 2003
3	December 2004
4	November 2005
5	January 2006
6	February 2006
7	June 2006
8	May 2007
9	July 2007
10	January 2008
11	June 2008
12	August 2008
13	March 2009
14	March 2010
15	May 2010
17	March 2011
18	July 2012
19	November 2012
20	December 2012
21	June 2013
22	June 2014
23	December 2014
24	March 2015
25	July 2017
26	August 2017
27	November 2017
28	March 2018
X	TBD

Section 1: Introduction

As required in the conditions set forth by the Nuclear Regulatory Commission (NRC) for the operating license for the Three Mile Island Station, the management of Exelon recognizes its responsibility and authority to operate and maintain the nuclear power stations in such a manner as to provide for the safety of the general public.

The Three Mile Island Station Emergency Preparedness Program consists of EP-TM-1000, Three Mile Island (TMI) Station Radiological Emergency Plan, EP-AA-1009, Radiological Emergency Annex for Three Mile Island (TMI) Station, Exelon emergency plan implementing procedures, and associated program administrative procedures. The Three Mile Island (TMI) Station Radiological Emergency Plan outlines the basis for response actions that would be implemented in an emergency.

This document serves as the Three Mile Island (TMI) Station Annex and contains information and guidance that is unique to the station. This includes on-shift staffing and augmentation, and facility geography. The Station Annex is subject to the same review and audit requirements as the Three Mile Island Radiological Emergency Plan.

1.1 Facility Description

TMI Unit 1 is operated by Exelon Nuclear. The TMI Unit #1 was an 870 Mwe, pressurized water-type, nuclear steam supply system supplied by Babcock & Wilcox Company. The unit is permanently defueled.

TMI Unit 2 is owned by First Energy Corporation. The TMI Unit 2 reactor was damaged during an accident in 1979 and is currently defueled and the plant maintained in long-term monitored storage. Monitoring of this facility is performed by Exelon Nuclear through a service agreement with First Energy Corporation. The arrangement of the major TMI-1 and TMI-2 facilities is shown in Figures TMI 1-1 and TMI 1-2.

TMI Station is located in an area of low population density about 12 miles southeast of Harrisburg, Pennsylvania.

The area is in Londonderry Township, Dauphin County, about 2.5 miles from the southern tip of Dauphin County, where the county is coterminous with York and Lancaster Counties.

The TMI site is part of an 814-acre tract consisting of TMI and several adjacent islands, which were purchased by a predecessor. The island, which is situated about 900 feet from the east bank and approximately one mile from the west bank of the Susquehanna River, is elongated parallel to the flow of the river with its longest axis oriented approximately due north and south. The north and south ends of the island have access bridges, which connect the island to State Highway Route 441. The north access bridge is used daily. Route 441 is a two-lane highway, which runs parallel to TMI on the east bank of the Susquehanna River and is more than 2,000 feet from the TMI reactors at the closest point.

A Norfolk Southern one-track line runs adjacent and parallel to Route 441 on the east bank of the river. On the west bank of the river, there is a multi-track Norfolk Southern line at the river's edge about 1.25 miles west of the site and a black top, two lane road that runs parallel to it. There is a one-track railroad spur across the bridge on the north end of the island, which is used for site-related activities. A general area map showing the relative location of the TMI sites is shown as Figure TMI 1-2.

In addition to the information listed above, specific details concerning the TMI Site are included in the Updated Final Safety Analysis Report (UFSAR).

1.2 Emergency Planning Zones

TMI has taken into consideration the information and data presented above, guidance provided by the Environmental Protection Agency (EPA), NRC and the Pennsylvania Emergency Management Agency (PEMA), as well as other important factors such as organizational capabilities, availability of emergency facilities and equipment, and the methods for implementing the Emergency Plan in defining the Emergency Planning Zones (EPZs) for the TMI. As a result, an EPZ having an approximate radial distance of 10 miles from the site has been defined as the "Plume Exposure Pathway". An EPZ having a radial distance of 50 miles from the site has been defined as the "Ingestion Exposure Pathway".

Figure TMI 1-4 illustrates the respective boundaries of for the Plume Exposure and Ingestion Pathways.

1.2.1 Owner Controlled Area, Exclusion Area and Low Population Zone

1. The Owner Controlled Area for the TMI site includes all areas within the perimeter security fence. The minimum distance to the owner controlled area boundary is measured from the centerline of the Fuel Handling Building to the western shoreline of the island, which is approximately 675 feet.
2. The Exclusion Area for the TMI site is a 2,000 foot radius that includes a portion of TMI, the river surface around it, and a portion of Shelly Island. The minimum distance of 2,000 feet occurs on the shore of the mainland in a due easterly direction. The TMI-1 licensee retains complete authority to determine and maintain sufficient control of all activities including the authority to exclude or remove personnel and property for all land areas within the exclusion area. A map showing the exclusion area boundary is included as Figure TMI 1-3. For the purposes of Emergency Planning, the exclusion area boundary and the site boundary are considered the same.
3. The Low Population Zone (LPZ) has a minimum distance of 2 miles to its outer boundary. The area of the Low Population Zone is also shown in Figure TMI 1-3.

1.2.2 Population and Population Distribution

As previously discussed, LPZ has been defined with a minimum distance of 2 miles from its outer boundary to the TMI site. The nearest major population center is Harrisburg, Pennsylvania which is located approximately 12 miles northwest of TMI. This distance satisfies the requirements of 10 CFR 100 with respect to population center distance. The population of residential areas, typical enrollment in various schools, and the hospital patient capacity in the surrounding area can be found in the TMI Evacuation Time Estimate (ETE) Study.

Within the two-mile LPZ, there are no schools. There are several recreational areas (Falmouth Fish Commission Access Area, Tri-County Boat Club and Canal Lock Boat Launch Area). There is some seasonal shift in population within a 5-mile radius of TMI since there are over 100 summer cabins on the islands within the area. Additional transients participate in boating activities in the vicinity of TMI.

1.2.3 Local Industrial and Military Facilities

The TMI site is currently surrounded by farmlands within a 10-mile radius. Lands are used for dairy cattle, tobacco, poultry, vegetables, fruit, corn, wheat, and other products. A summary of land use for the risk counties is provided in Table 1 and the FSAR. The Susquehanna River is used for sport fishing and boating but is not used for commercial fishing. Manufacturing industries in the region produce clothing, wood products, shoes, electrical wiring devices, steel products, packed meat and other food. These activities, within a 10-mile radius of the site, are confined chiefly to the communities of Harrisburg, New Cumberland, Steelton, and Middletown. A listing of typical industries within 10 miles of TMI can be found in the site Updated Final Safety Analysis Report (UFSAR). There are gas and oil transmission lines located at a minimum distance of approximately 2 miles from TMI.

Approximately 3 miles downstream from the site is the York Haven hydro-electric project. The York Haven Station is operated on a "run-of-the-river" basis, and its power output is dependent primarily upon the water available. The reservoir is used for peaking operation during periods of low river flow. Brunner Island Station, a large steam-electric generating plant owned by the Pennsylvania Power & Light Company is located on the Susquehanna River approximately one mile downstream from the York Haven project. This station uses water from the river on a "once-through" basis for cooling water. Three other hydroelectric generating stations are also located downstream from TMI, with each project having a dam and reservoir on the Susquehanna River. The three stations are Safe Harbor, Holtwood, and Conowingo Hydroelectric Projects, located approximately 25, 31, and 47 miles south of TMI, respectively. There is also a coal fired, steam electric plant at Holtwood, and the Muddy Run Pumped Storage Project is associated with Conowingo Station. The Peach Bottom Atomic Power Station (PBAPS) is located along the west bank of the Susquehanna River, about 41 miles downstream of TMI, just north of the Maryland-Pennsylvania border and is the only nuclear plant within a 50-mile radius of TMI.

There are two airports within 10 miles of the TMI sites. Harrisburg International Airport (formerly Olmsted Air Force Base) is located on the east bank of the Susquehanna River approximately 2.5 miles northwest of the site. The Capital City Airport is located approximately 8 miles west-northwest of TMI. The vital areas of the TMI sites are designed to withstand a hypothetical aircraft accident.

Norfolk Southern lines are located on both sides of the Susquehanna River, the closest being the east bank, approximately 2,000 feet from the TMI Reactor Buildings. Routine traffic in liquified petroleum gas was identified on the railroad line, which passes along the east shore of the river. Analyses indicate that any missiles generated by this traffic would be less damaging than the postulated aircraft strike against which the plant is protected and that flammable gases would dissipate before reaching the TMI Nuclear Units.

The closest military installation to the site is the Air National Guard facility at Harrisburg International Airport. There are no military firing ranges or missile facilities within a 10-mile radius of TMI. Other military facilities, however, are Army and Navy depots located at New Cumberland and Mechanicsburg, Pennsylvania, respectively.

1.3 Participating Governmental Agencies

The Radiological Emergency Plan (REP) Annex for the Three Mile Island Station Emergency Plan was developed in coordination with the Commonwealth of Pennsylvania Emergency plan. In addition, specific State requirements for reporting of emergencies, providing information and data, and recommending protective actions, have been integrated directly into the Emergency Plan Implementing Procedures. In considering the Plume Exposure Pathway, there are

also county plans that have been considered in the development of the REP Annex for TMI Station. The State Plan designates PEMA as the lead state agency for radiological emergency response planning and the state agency through which the Governor will exercise coordination and control during emergency. The State Plan is an integrated document setting forth the resources and responsibilities of all relevant state agencies. Significant plans from the State Departments of Agriculture, Environmental Resources, Bureau of Radiation Protection (BRP) are included in the State Plan.

1.3.1 Federal Agencies

A summary of Federal response agencies, responsibilities and activities, as described under the National Response Framework (NRF), is contained in the Three Mile Island (TMI) Station Radiological Emergency Plan. Specifics related to support for TMI Station are listed below.

1. **The Department of the Army (local Ordinance Detachment)** will provide an Explosive Ordinance Disposal capability in response to requests for assistance in the event of a bomb threat.
2. **The Federal Aviation Administration (FAA)** will ensure air traffic is diverted in the event of an emergency situation with a potential for radioactive release.
3. **National Weather Service (NWS)** will provide backup meteorological information upon request.

1.3.2 State Agencies

The planning for, and response to a radiological emergency at the TMI site is the joint responsibility of TMI and the state/county/local governmental agencies. TMI is responsible for onsite emergency response. In order to fulfill this responsibility, TMI relies on various offsite agencies, both governmental and private, to provide assistance beyond that available onsite. The Commonwealth of Pennsylvania, through the various state, county and local agencies, is responsible for offsite emergency response. In order to fulfill this responsibility, the state relies on TMI to provide necessary information on plant status and radiation releases. Recognizing the joint nature of their responsibilities, TMI and the relevant governmental agencies have coordinated their emergency planning and have provided for adequate and redundant communication systems to coordinate their response during an emergency event.

1. Pennsylvania Emergency Management Agency (PEMA)

PEMA is responsible to coordinate emergency services in the Commonwealth of Pennsylvania. Should a radiological emergency occur at the TMI site that requires the implementation of state, county, and local government radiological emergency response plans, the state agency through which the Governor will exercise coordination/control will be PEMA. However, as in all emergencies, the Governor retains directional control. The State role is further defined in the State Disaster Operations Plan - Annex E.

PEMA exercises authority over all non-licensee offsite organizations, who are a part of the emergency response team in the TMI Plume Exposure and Ingestion Pathways. This authority is based on the provisions of Section 7313 of the State of Pennsylvania Emergency Management Services Code 35 PA (C.S.A. Sections 7101-7707) also referred to as Pamphlet Law 1332. By law, PEMA is authorized to:

- Provide emergency direction and control of Commonwealth of Pennsylvania and local disaster emergency operations.
- Accept aid and coordinate assistance provided by Federal Agencies under provisions of the Federal Disaster Relief Act of 1974.

2. Department of Environmental Protection

The Department of Environmental Protection (DEP), under the administration and technical direction of the Secretary, is responsible for gathering and evaluating technical information and for supplying such information and technical advice and recommendations to PEMA and the Pennsylvania Emergency Management Council.

Within the DEP, the Bureau of Radiation Protection (BRP) has been delegated responsibility for radiological emergencies. Specific responsibilities assigned to the DEP/BRP that are appropriate to radiological emergencies are defined in the State Plan. To provide for emergency response capability, the BRP has made provisions for 24 hour per day interface with PEMA.

1.3.3 County Agencies

Pamphlet Law 1332 states that, "each political subdivision of this Commonwealth is directed and authorized to establish a local emergency management organization in accordance with the plan and program of the PEMA. Each local organization shall have responsibility for emergency management, response and recovery within the territorial limits of the political subdivision within which it is organized and, in addition, shall conduct such services outside of its jurisdictional limits as may be required under this part." Therefore, each County and Local Emergency Management Coordinator in the State is responsible for establishing an emergency management organization within their respective jurisdiction, developing plans and preparing for emergency operations.

With respect to the TMI Plume Exposure Pathway, Dauphin, York, Cumberland, Lancaster and Lebanon Counties have prepared Radiological Emergency Response Plans that are coordinated with both the State's Disaster Operations Plan and the REP Annex for TMI Station. Local government plans are either included directly within the respective County plan or are maintained as separate, but coordinated documents. The county Emergency Operations Centers (EOCs) are the location of the County dispatcher for police, fire, rescue and emergency medical services and is manned by dispatchers on a 24-hour basis. In the event of a PEMA communications breakdown, Dauphin County will act as the primary Communicator with PEMA, BRP, and the other four risk counties.

1.3.4 Additional Support Agencies

The nature of an emergency may require augmenting the emergency organizations with assistance from additional personnel and organizations. In order to ensure that support from local law enforcement, fire departments, hospitals, ambulance services and other organizations will be available on relatively short notice, agreements have been established with personnel and organizations. Agreements from offsite individuals, groups and agencies that support Three Mile Island may take one of the following forms:

- Contracts
- Letters of Agreement
- Memoranda of Understanding
- Formal Emergency Plans

Refer to Appendix 2 for a listing of offsite support organizations.

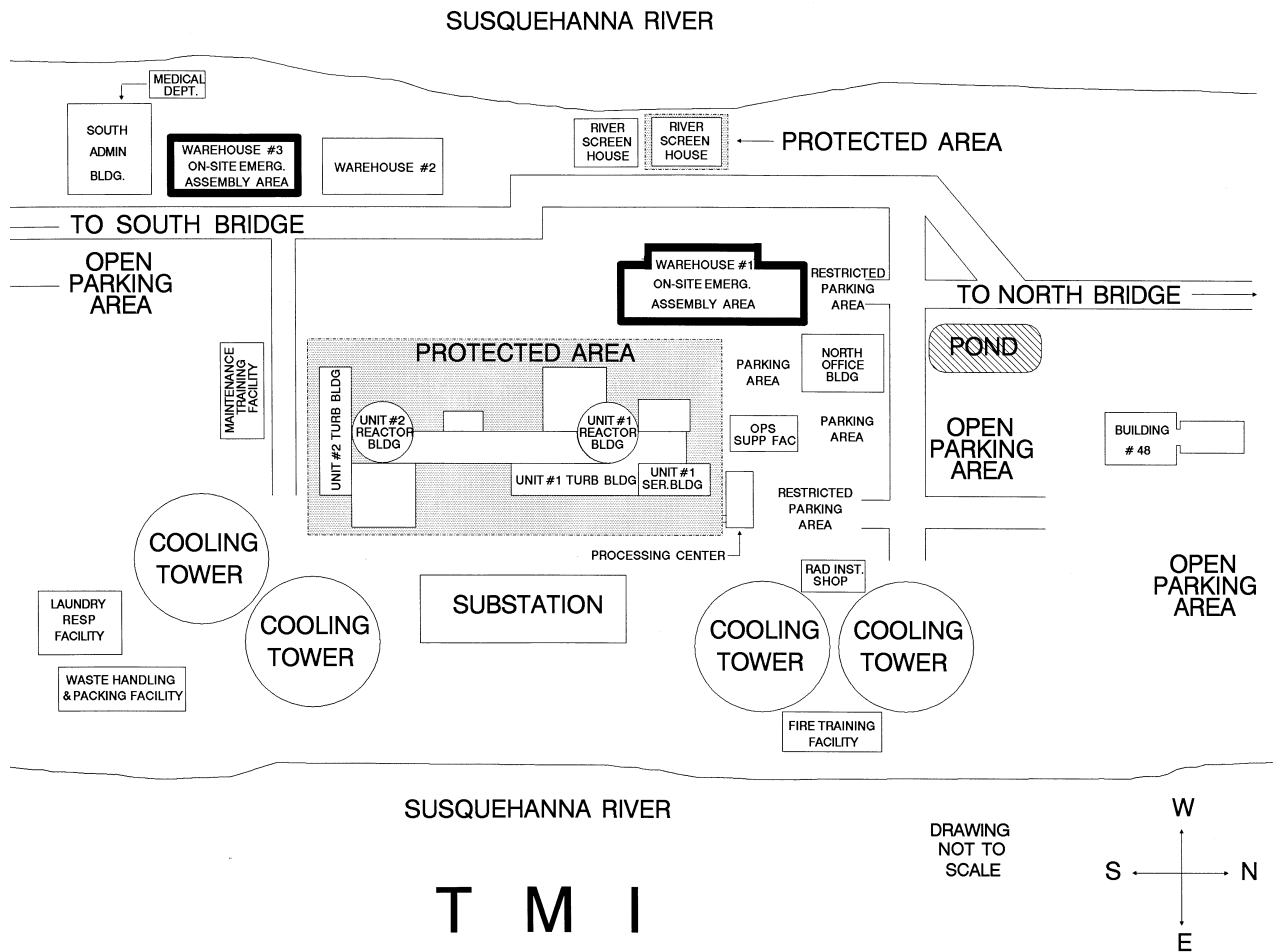
FIGURE TMI 1-1: TMI Site Arrangement

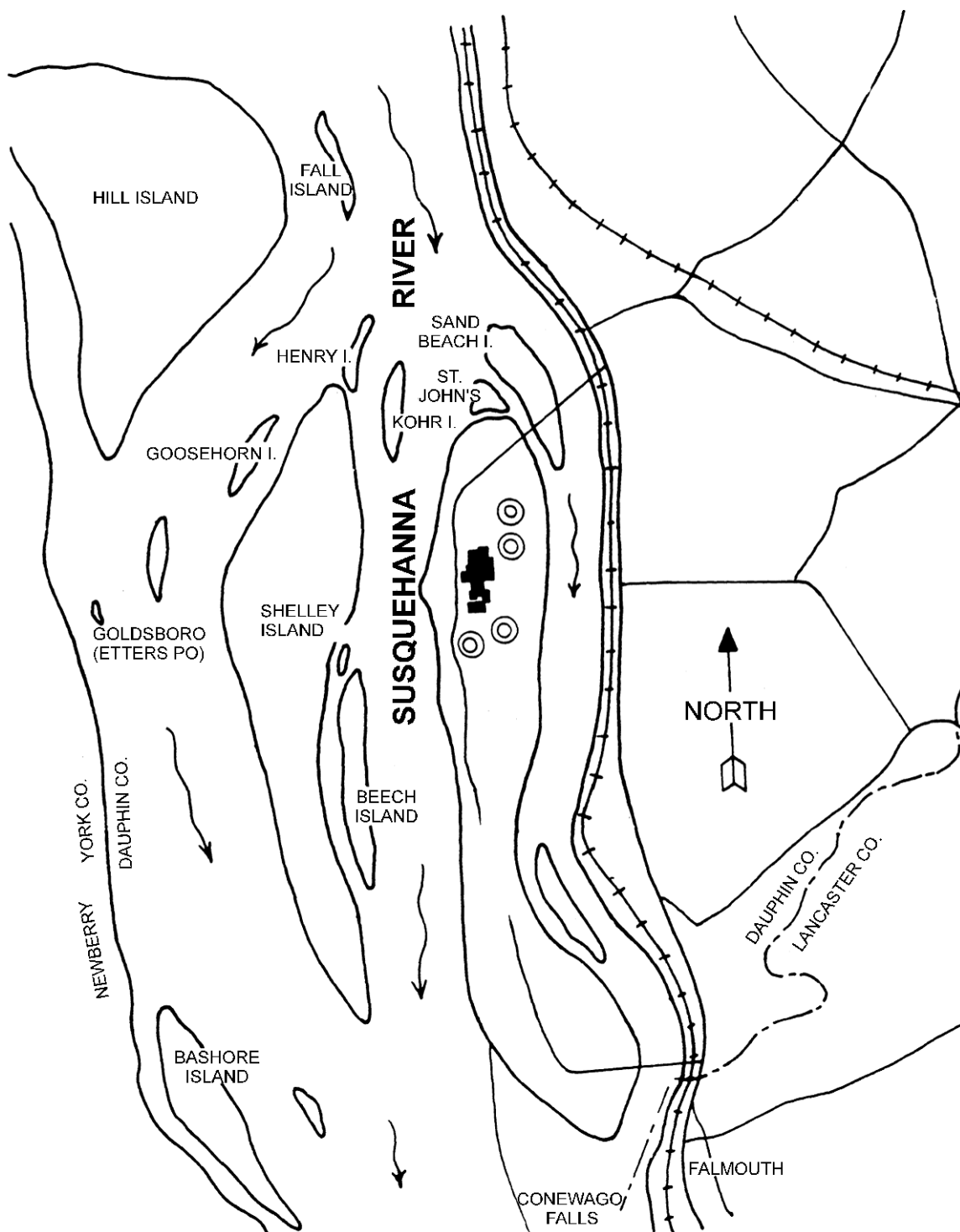
FIGURE TMI 1-2: Relative Location of the TMI Site

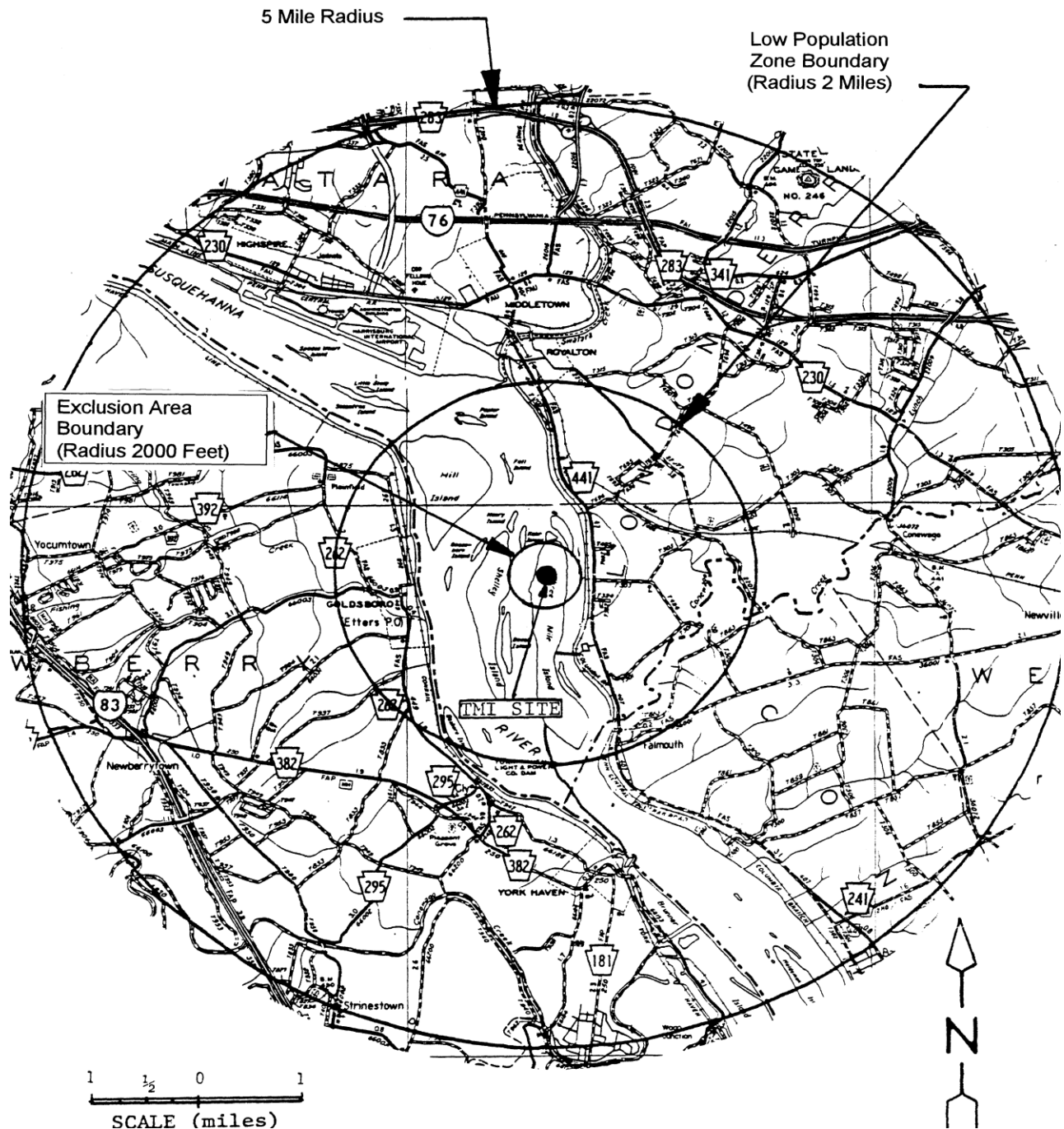
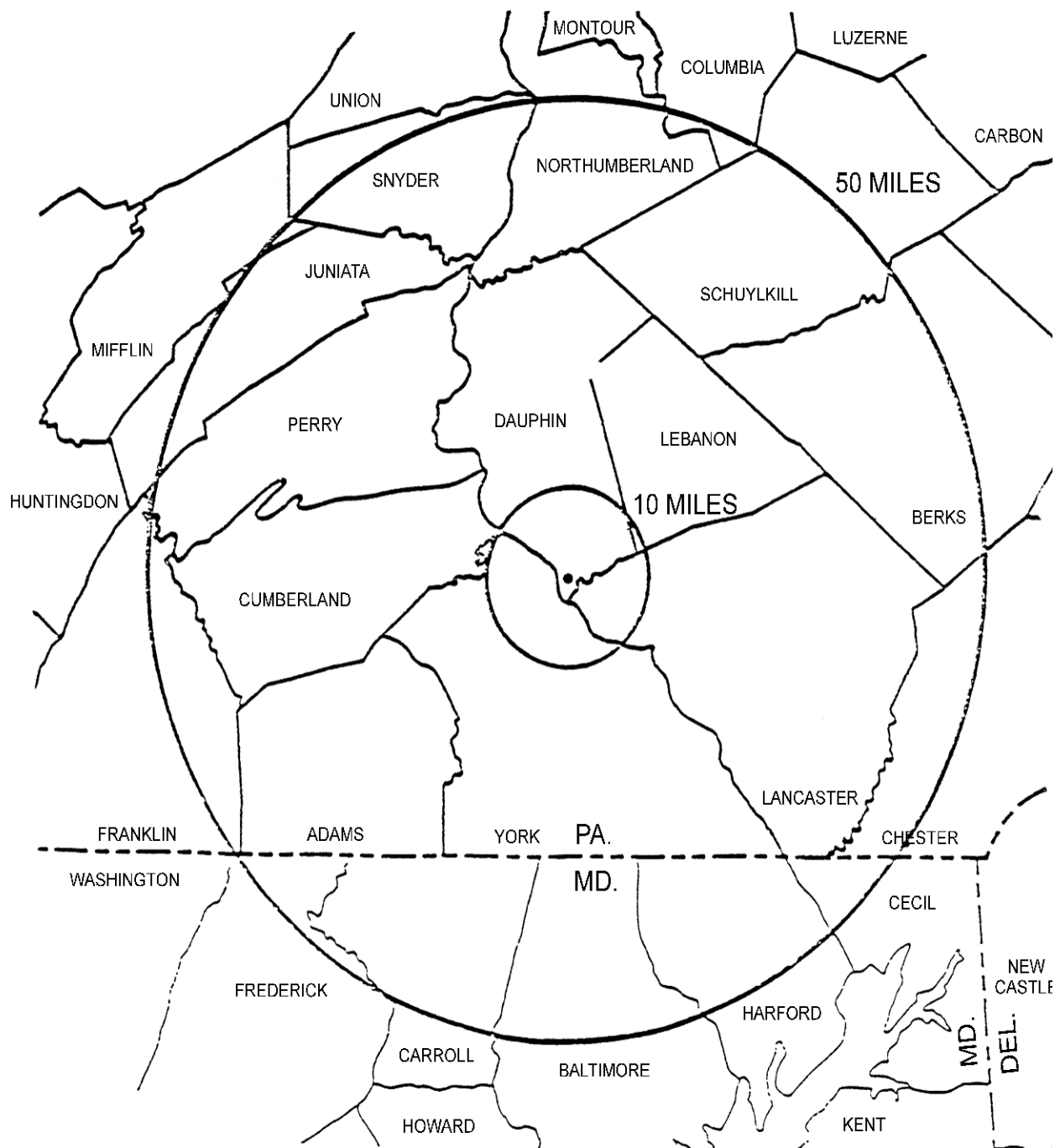
FIGURE TMI 1-3: TMI Site Exclusion Area and Low Population Zone

FIGURE TMI 1-4: Plume Exposure and Ingestion Pathway EPZs

Risk Counties: Cumberland, Dauphin, Lancaster, Lebanon, York



Section 2: Organizational Control of Emergencies

This section describes the Emergency Response Organization (ERO) and its key positions. It outlines the staffing requirements which provide initial emergency response actions and provisions for timely augmentation of on-shift personnel when required. It also describes interfaces among Exelon Nuclear emergency response personnel and specifies the offsite support available to respond to the nuclear station.

2.1 Shift Organization Staffing

Initial response to any emergency is by the normal plant organization present at the site. This organization includes positions that are onsite 24 hours per day and is described in Section B.1 of the Three Mile Island (TMI) Station Radiological Emergency Plan. The Normal Shift Organization will be augmented, in an emergency, with designated/additional Emergency Response Organization (ERO) personnel within 60 minutes following the declaration of an Alert or higher emergency classification as specified under EP-TM-1000, Table TMI B-1. ERO activation is described in Section H.4 of the Three Mile Island (TMI) Station Radiological Emergency Plan.

EP-TM-1000, Table TMI B-1 outlines ERO positions required to meet minimum staffing and full augmentation of the on-shift complement at an Alert or higher classification, and the major tasks assigned to each position. Responsibilities for each position are described in Section B.5 of the Three Mile Island (TMI) Station Radiological Emergency Plan.

2.1.1 Shift Dose Assessment

A designated, qualified shift member will perform the on-shift dose assessment function. This **Shift Dose Assessor** will provide radiological assessment input and radiological support to the Control Room. This position reports to and advises the Shift Manager (Shift Emergency Director) in regard to in-plant, onsite and offsite radiological conditions.

He/She performs dose projections, coordinates the initial mobilization of field monitoring teams, if a release is underway, and assists in formulating dose-based Protective Action Recommendations (PARs).

2.1.2 Shift Communicator

This position is responsible to make notifications to offsite agencies until properly relieved by the TSC or EOF, and assisting in the activation of the ERO callout system as directed.

2.1.3 DELETED

2.1.4 Repair Team Lead

A designated person on-shift shall fill the **Repair Team Lead** position until relieved by the ERO OSC Director. This position reports to the Shift Emergency Director until control of the OSC is transferred to the TSC.

2.1.5 The following functions will be performed by trained members of the normal shift complement:

1. **Firefighting**

Specific personnel on each shift (Site Fire Brigade) are trained in firefighting to ensure such capability will be available 24 hours per day. The Fire Brigade, under the direction of the Fire Brigade Team Leader or another individual designated by him, shall respond to all confirmed fire alarms or as directed by the Control Room and report to the location of the fire with assigned equipment. During the normal work week, additional qualified firefighting personnel will, as necessary, be obtained from the normal on-site organization. Assistance will be requested from local fire departments through the county dispatcher / appropriate local dispatch system.

2. **First Aid and Search and Rescue**

Medical emergencies and search and rescue operations will be the responsibility of the First Aid and Search and Rescue Teams. Specific personnel on each shift are trained in first aid techniques to ensure such assistance will be available 24 hours per day. Assistance will be requested from outside medical support personnel or organizations as deemed necessary.

2.2 **Emergency Response Organization (ERO) Staffing**

In the Three Mile Island (TMI) Station Radiological Emergency Plan, EP-TM-1000, Figures TMI B-1a through TMI B-1d illustrate the overall emergency response organization. EP-TM-1000, Table TMI B-1, Minimum Staffing Requirements, provides a comparison against the Exelon Nuclear Radiological Emergency Plan of 60-minute and 90-minute commitments. An illustration of the overall Exelon ERO command structure is provided in Figures TMI B-1a - d in EP-TM-1000.

2.3 **Emergency Response Organization (ERO) Training**

Training is conducted in accordance with Section O.5 of the Three Mile Island (TMI) Station Radiological Emergency Plan per TQ-AA-113, "ERO Training and Qualification." Retraining is performed on an annual basis, which is defined as once per calendar year not to exceed 18 months between training sessions.

TMI will offer training for hospital personnel, and ambulance and rescue, police and fire departments required to support implementation of the TMI Emergency Plan. This training shall include the procedures for notification, basic radiation protection and their expected roles. For those support organizations that must enter the site, training shall also include site access procedures and the identity (by title) of the individual in the site emergency organization who will control the organization's support activities.

2.4 Non-Exelon Nuclear Support Groups

The nature of an emergency may require augmenting the emergency organizations with assistance from additional personnel and organizations. In order to ensure that support from local law enforcement, fire departments, hospitals, ambulance services and other organizations will be available on relatively short notice, agreements have been established with personnel and organizations. Agreements from offsite individuals, groups and agencies that support TMI may take one of the following forms:

- Contracts
- Letters of Agreement
- Memoranda of Understanding
- Formal Emergency Plans

Refer to Appendix 2 for a listing of these support organizations.

2.4.1 Miscellaneous Organizations

- Other utilities
- American Nuclear Insurers (ANI)
- AREVA
- Aviation services

2.4.2 Norfolk Southern Railroad Company

The Norfolk Southern Railway track crosses the access to the facility, and impeding site access could impact the implementation of time sensitive emergency actions. These emergency actions include augmentation of the Emergency Response Organization, use of off-site assistance, and evacuation of non-essential personnel. Therefore, a Memorandum Of Understanding (MOU) has been established with Norfolk Southern Railway Company. The purpose of the MOU is to ensure that stopped or disabled train traffic does not impede access to the island across the North Bridge for the duration of the emergency. This will provide reasonable assurances that there is sufficient time to allow implementation of emergency actions at TMI in the event of a declared emergency. The MOU with Norfolk Southern Railway Company will be reviewed every five years.

Section 3: Classification of Emergencies

**The TMI Emergency Action Levels and supporting information
are re-located in EP-AA-1009, Addendum 3.**

Section 4: Emergency Measures

4.1 Notification of the Emergency Organization

Notifications for the Three Mile Island Station are in accordance with Section E.3 of the Three Mile Island (TMI) Station Radiological Emergency Plan. For initial notification/escalation of Unusual Event, Alert and Site Area and General Emergencies, TMI will notify the following offsite agencies within 15 minutes of event declaration:

- Pennsylvania Emergency Management Agency (PEMA)
- Dauphin County
- York County
- Lancaster County
- Lebanon County
- Cumberland County

Within one hour of event classification, but immediately following notification of PEMA and the risk counties, TMI will also notify the Nuclear Regulatory Commission.

Upon notification of an emergency at Three Mile Island Station, the Pennsylvania Bureau of Radiation Protection (BRP) will contact the appropriate station to verify that an emergency exists and to obtain technical information, and then makes recommendations to PEMA regarding protective actions for the public. The BRP Support Plan For Fixed Nuclear Facility Incidents utilizes the Protective Action Guidelines in the U.S. Environmental Protection Agency (EPA) 400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents".

In addition to the initial notification and verification, communication channels will be maintained between the facility and offsite emergency response organizations to allow for any further dissemination and update of information concerning the emergency.

The Commonwealth of Pennsylvania, in accordance with the State Radiological Emergency Response Plan, will coordinate offsite emergency support from Federal, State and local agencies

Exelon Nuclear will provide follow-up information to the BRP or other off-site authorities. The follow-up information will keep these authorities apprised of existing or potential radiological releases, meteorological conditions, projected doses and contamination levels, licensee actions, recommend protective actions and other information pertinent to the authorities' responsibilities. The information may be provided over open communication paths or in person to BRP personnel.

4.1.1 Offsite Agency Response

1. **Risk Counties (Within Plume Exposure Pathway)**

- The dispatcher at the Risk Counties shall notify their County Emergency Management Coordinator or his designated alternate.
- The County Office of Emergency Management shall notify county and municipal personnel, as appropriate.
- Dauphin County - Act as central communications agency in the event of a PEMA/TMI communication breakdown.

2. **Pennsylvania Emergency Management Agency (PEMA)**

Upon receiving notification of an emergency from the site, the PEMA Duty Officer Agency shall immediately notify the State Bureau of Radiation Protection (BRP).

PEMA will also notify the following personnel, organizations, and agencies as appropriate in accordance with their standard operating procedures:

- a. Other affected County Emergency Management Agencies
- c. Other affected states
- d. Selected State agencies
- e. Selected Federal agencies

3. **Department of Environmental Protection / Bureau of Radiation Protection (DEP/BRP)**

The Incident Manager, who receives the notification from PEMA, shall:

- Contact the licensee to: (1) Verify actual origin of the emergency message; (2) Determine the classification of the emergency; and (3) Obtain and assess information and data pertaining to the emergency.
- Initiate activation of the BRP emergency response organization, if appropriate.
- Advise the PEMA Duty Officer or Operations Officer of the BRP initial assessment of the emergency.
- Notify selected Federal agencies, as appropriate.

4.2 Assessment Actions

The effluent radiation monitoring system provides indications of gross releases of gaseous and liquid radioactivity. By applying calibration factors, meteorological data, or river flow, the gross indications are used to calculate approximate release rates in $\mu\text{Ci/sec}$ and dose rates at specific distances along the release pathways. Particulate and iodine analysis depends on collecting installed filter papers and charcoal cartridges for analysis in the counting room. Similar calculation procedures are applied to approximate release rates and dose rates due to iodine.

Detectors are strategically located throughout the plant. These detectors indicate and alarm locally and in the Control Room. They serve the purpose of indicating current dose rates in those areas and are used for local evacuation action levels and re-entry operations.

Certain plant operating systems contain radiation monitors. These systems are described in the TMI UFSAR.

Portable monitoring instruments and sampling equipment consist of such items that are utilized and maintained on-site for normal day-to-day plant operations and are thus available for emergency use.

Refer to Section 5.2 of the REP Annex for TMI Station for a listing of assessment resources.

4.2.1 Radiological Assessment and Offsite Monitoring

For the emergency assessment of gaseous releases, refer to the description of the dose projection model contained in Part II, Section I.4 of the Three Mile Island (TMI) Station Radiological Emergency Plan.

For liquid releases, the radionuclide concentration at any downstream location is determined by taking liquid effluent concentrations and applying the effluent flow rate and volumetric flow rate of the receiving water. Downstream users will be notified to curtail intake if the projected concentration is above the level specified in the procedures.

4.2.2 Source Term Determination

Should the effluent radiation monitors be off-scale or otherwise inoperable, assessment of releases and off-site exposure would be made using the point of release grab samples, and pathway samples.

4.3 Protective Actions for the Offsite Public

The responsibility for actions to protect persons in offsite areas rests with the State and is described in detail in the State Emergency Plan and implemented in conjunction with the county emergency plans.

DEP/BRP is the specific agency responsible for evaluating information from the TMI staff and all other sources and recommending to PEMA that protective actions be taken. The BRP has sheltering and evacuation as protective action options. The most appropriate protective action for a particular situation will depend on the magnitude of the release, duration of the release, wind speed,

wind direction, time of day and transportation constraints. In the case of a General Emergency, circumstances may indicate the immediate need to initiate some precautionary protective action. This judgment is the responsibility of the BRP and should be based on an evaluation of the current plant conditions, dose projections relative to the PAG's and expected subsequent plant operations/evaluations.

Off-site it is the responsibility of the State Department of Agriculture, in conjunction with the Department of Environmental Protection, to issue guidance and coordinate actions to control contaminated agricultural products.

The means to warn or advise involved persons is a responsibility of the risk county. The risk county, in coordination with the State, is also responsible for the preparation and dissemination of information material for the general public on protective actions including necessary information (evacuation routes, maps, etc.) for the implementation of protective measures in the Plume Exposure Pathway.

The population within the 10-Mile Emergency Planning Zone (Plume Exposure Pathway) will be provided, on a periodic basis, information describing the methods by which they will be notified of an emergency and specific instructions that should be followed upon receipt of such notification.

4.3.1 Alert and Notification System (ANS) Sirens

ANS is comprised of sirens distributed throughout the 5 risk counties that fall within the TMI Plume Exposure EPZ. A complete description of the siren system to include siren ratings, siren coverage, and location is located with the Emergency Preparedness Department. The TMI Station ANS meets the guidelines of Appendix 3 to NUREG-0654-FEMA-Rep. 1 Rev-1 Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants as identified in each site specific siren acoustical evaluation.

After State authorities have been notified, the ANS (sirens) and Emergency Alert System (EAS) are the primary means of notifying the population within the Plume Exposure Pathway (10-Mile EPZ). The risk counties can activate the sirens located in their portion of the county that falls within the same Plume Exposure Pathway EPZ. The signal is a three to five minute steady tone that alerts the population to tune their radios or television to the local EAS station. PEMA and risk counties will then broadcast emergency information messages advising the population of what actions should be taken, if any.

Backup means of notification is achieved through Route Alerting, which is contained within the State and respective counties' Radiological Emergency Response Plans and procedures. The means consists of utilizing vehicles with public address (PA) systems in the event the primary method of alerting and notification is unavailable. The backup method has the capability to alert and notify the public within the plume exposure pathway EPZ within a reasonable time, but does not need to meet the 15-minute design objective for the primary prompt public alert and notification system.

4.3.2 Evacuation Time Estimates

The ETE study used population data from the 2010 census which includes parts of five Pennsylvania counties: Cumberland, Dauphin, Lancaster, Lebanon and York. The evacuation times are based on a detailed consideration of the EPZ roadway network and population distribution. The ETE Study, contained in EP-AA-1009 Addendum 2, Evacuation Time Estimates for the Three Mile Island Plume Exposure Pathway Emergency Planning Zone, presents evacuation times for daytime and nighttime scenarios under various weather conditions for the evacuation of various areas around the TMI Station, once a decision has been made to evacuate.

4.3.3 Potassium Iodide (KI)

The Department of Health, Commonwealth of Pennsylvania, is responsible for providing advice to PEMA on the planning for the use, stockpiling and distribution of Potassium Iodide (KI) or other thyroid blocking agents and such other radiological health materials as may be required for the protection of the general public. Their decision shall also be based on U.S. FDA guidance.

Based on the criteria established under the Appendix E of the Commonwealth of Pennsylvania Operations Plan, the TMI Station will recommend to government officials that the general public be notified to take KI at a General Emergency classification in those areas where an evacuation or shelter has been recommended. This notification will be approved by the Emergency Director in Command and Control of PAR decision-making and off-site notifications, and performed as part of the State / local notifications described under Sections II.B.4 and II.E.3 of the Three Mile Island (TMI) Station Radiological Emergency Plan.

4.3.4 Public Information

a. Publications

Public information on protective actions is prepared and disseminated annually to provide clear instructions to the population-at-risk. Exelon Nuclear assists PEMA and risk counties in the preparation and distribution of their respective public information.

Pamphlets outlining public education response actions are readily available for transients in the 10-Mile EPZ. In addition, emergency information is provided to the operators of other recreational areas in the 10-Mile EPZ, as defined by the Commonwealth of Pennsylvania and risk counties.

These public information publications (including telephone book emergency information, etc.) instruct the public to go indoors and turn on their radios when they hear the ANS sirens operating. These publications identify the local radio stations to which the public should tune in for information related to the emergency. Additional materials (e.g., such as rumor control numbers, evacuation routes, information on inadvertent siren soundings, etc.) may also be included in these publications based on agreements with responsible State and risk county agencies.

b. News Media Education

Information kits are available to news media personnel. These kits include information on a variety of nuclear power plant related subjects.

4.3.5 Protective Action Recommendations (PARs) for the General Public

To aid the Emergency Response Organization during a developing emergency situation, EP-AA-111, "Emergency Classification and Protective Action Recommendations" has been developed based on Section J.10.m of the Three Mile Island (TMI) Station Radiological Emergency Plan.

4.4 Protective Actions for Onsite Personnel

During an emergency, personnel may be required to temporarily relocate to prevent or minimize exposure to radiation and radioactive materials. The following subsections discuss the policies applying to sheltering, evacuation and personnel accountability during emergencies at the TMI site.

At the time an emergency is declared, an announcement is made on the site public *address* system to all personnel within the Owner Controlled area. The announcement will include the classifications of the event, a brief description of the event, and actions taken by site personnel. Shift personnel will proceed to their emergency assignments.

The TMI-1 licensee retains complete authority to determine and maintain sufficient control of all activities including the authority to exclude or remove personnel and property for land areas within the exclusion area and contamination will, thereby, be controlled. In addition, there are no areas for producing agricultural products within the exclusion area. In-plant contamination control will be in accordance with approved Radiological Controls procedures.

The primary protective measures for onsite personnel during an emergency is prompt evacuation from areas, which are affected by significant radiation, contamination, airborne radioactivity or other personnel hazards. All persons onsite at the time an emergency is declared shall be notified by means of the plant page supplemented by designated personnel providing notification in areas that the page does not cover.

4.4.1 Emergency Personnel Exposure

Exposure to personnel remaining onsite as or in support of ERO activities will be monitored. This may be accomplished through continuous monitoring for habitability at designated emergency and support facilities. Dosimetry will be issued to personnel leaving or working outside a monitored facility, and will be available to ERO personnel located inside a site emergency facility, in the event of a radiological release or elevated plant radiation levels, as applicable, per approved procedures. Additional provisions have been made for dosimetry issue at the site entrance gates or other locations, if required. Dosimetry will be periodically read and recorded in accordance with approved RP procedures.

Emergency personnel, including those involved in the removal of injured persons, undertaking corrective actions, performing assessment or personnel decontamination, and providing first aid and support to ambulance services will have their radiation dose controlled in accordance with approved procedures and normal RP practices.

When offsite emergency personnel are called to respond to TMI, station RP support is provided to support these activities, which include the monitoring and control of radiation exposure and evaluation of radiological hazards.

4.4.2 Radiological Monitoring and Decontamination

Personnel and equipment decontamination will be initially accomplished at the Radiation Protection Access Control Point where specialized equipment and supplies are available. Procedures are written with specific details for decontamination. For personnel within the Protected Area, emergency situations, which require decontamination will be handled in accordance with these procedures.

All personnel leaving a Radiological Controlled Area (RCA) will be monitored for contamination. Any individual found to have contamination levels in excess of thresholds established in Radiation Protection (RP) procedures will be considered contaminated.

Personnel found to be contaminated will undergo decontamination by radiological controls personnel (or other designated personnel as specified in Radiation Protection Procedures). Measures will be taken to prevent the spread of contamination. Such measures may include isolating affected areas, placing contaminated personnel in "clean" protective clothing before moving, and decontaminating affected personnel, their clothing and equipment prior to release, in accordance with applicable station Radiation Protection Procedures.

In the event that a release of contaminants has occurred or is occurring, in-plant potable water systems will be secured to prevent possible contamination. If food and water supplies are brought in for emergency personnel who remain on-site these supplies will be packaged in sealed containers and will be monitored by Radiation Protection personnel (using standard Rad Con practices and procedures) prior to use or consumption and on a normal routine basis. Any food or water supplies discovered as contaminated will immediately be disposed of as waste and will not be used.

Upon receipt of information that the emergency has entered recovery phase, in-plant facilities and areas will be surveyed, sampled, and cleared for use, or controlled as necessary, in accordance with applicable Radiation Protection practices.

4.4.3 Personnel Accountability / Site Evacuation

Upon declaration of a Site Area Emergency, General Emergency and/or at the discretion of the Station Emergency Director, essential personnel within the Protected Area will be accounted for at the Control Room, TSC and OSC unless other factors (e.g., security events) advise against it.

Non-essential personnel will be directed to proceed to their vehicles directly and to evacuate to designated Remote Assembly Areas or dismissed to their homes. The Station Emergency Director based on the prevailing radiological conditions will determine evacuation routes. This evacuation will be accomplished using private vehicles.

In support of these operations, a sweep of buildings, trailers, and other areas of the Owner Controlled area will commence to ensure that all persons have assembled and/or evacuated the site.

Refer to Section J of the Three Mile Island (TMI) Station Radiological Emergency Plan for specific requirements for the initiation and completion of personnel accountability and the evacuation of non-essential personnel from the site. Search and rescue operations will be implemented to locate any missing persons.

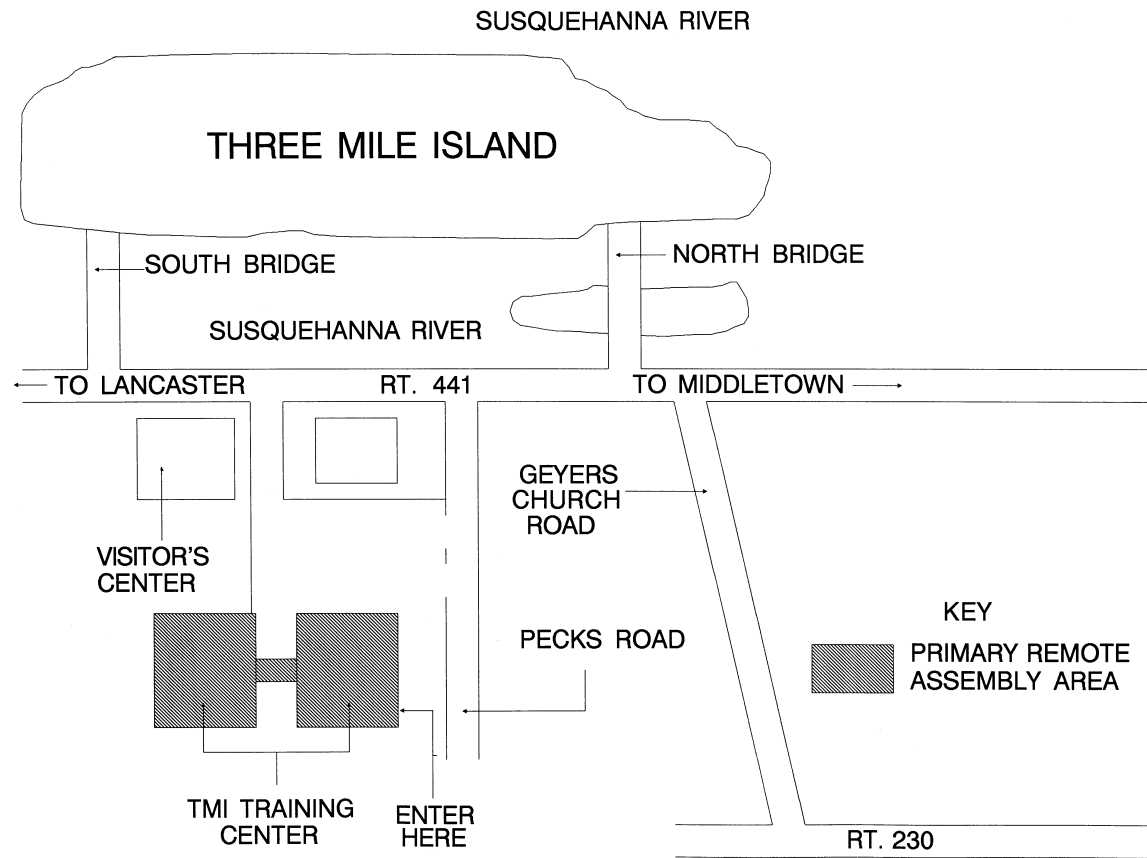
4.4.4 Monitoring of Evacuees

At the Remote Assembly Areas (Figures TMI 4-1 and TMI 4-2), personnel and vehicles from the TMI site will be monitored for radioactive contamination, if necessary. Individuals found to be contaminated will be decontaminated in accordance with applicable Radiation Protection Procedures. Vehicles found to be contaminated will be impounded until they can be decontaminated. Inclement weather will not affect the direction of the traffic flow, but may increase evacuation times.

If anyone is found to be contaminated, showers, sinks and decontaminating supplies are available in close proximity to the plant. Equipment for decontamination personnel will be stored in Emergency Supply Lockers. Portable survey instruments are available and routinely calibrated for use in decontamination operations. All skin contamination problems will be treated using accepted Radiation Protection practices.

For contaminated personnel inside the Protected Area, the preferred decontamination facility will be those onsite at the TMI Site Laboratory, if accessible; otherwise offsite facilities will be used.

The registering and monitoring of the general public evacuating from the Plume Exposure Pathway EPZ, as described in Section II.J.12 of the Three Mile Island (TMI) Station Radiological Emergency Plan, will occur at designated facilities per the respective State and County Radiological Emergency Response Plans.

FIGURE TMI 4-1: Remote Assembly Area – TMI Training Center

DRAWING NOT TO SCALE

This map illustrates the evacuation routes from the TMI (Tribble Mountain Industrial) facility. The primary route is marked with thick black arrows and labeled "EVACUATION ROUTE". It begins at the TMI, proceeds north through North Gate and South Gate, and then follows the Susquehanna River. Key landmarks and roads along this route include the Pecks Rd Training Center, Pecks Rd, and the intersection of RT 441. The route continues north through Middle Town, where it intersects with RT 230, RT 283, and RT 283 N. (To Harrisburg). From there, it follows RT 283 N. to the PA Turnpike Exit 19, then continues north through the Swatara Exit, RT 322 E., and RT 83 S. towards Harrisburg. An inset map provides a detailed view of the area around the Public Safety Entrance #5, showing the intersection of Industrial Rd. and Wildwood Park Rd. Other roads shown include Hillsdale Church Rd, Geysers Drive, and Turnpike Rd. A compass rose indicates North (N), South (S), East (E), and West (W).

Section 5: Emergency Facilities and Equipment

5.1 Emergency Response Facilities

5.1.1 Station Control Room

The Control Room and Shift Manager's Office are designed to be habitable under accident conditions. These areas are located in seismically-rated structures and have adequate shielding to permit safe occupation for extended periods of time. The TMI-1 Control Room ventilation system has redundant fans and chillers and is provided with radiation and smoke detectors with appropriate alarms and interlocks. Provisions have been made for air from the control rooms to be recirculated through high efficiency particulate air (HEPA) and activated charcoal filters. Fresh air is drawn through underground ventilation tunnels which have been provided with protection against combustible vapors, incipient explosions or fires. The tunnels are Seismic Class I rated and also designed for a hypothetical aircraft incident.

Emergency lighting, power, ventilation system, and shielding walls enable operators to remain in the Control Room to ensure that the reactor will be maintained in a safe condition. In addition, the operators will be able to evaluate plant conditions and relay pertinent information to appropriate onsite and offsite personnel, organizations, and agencies during emergencies. To ensure the operations shift and other personnel assembled at the location can remain self-sufficient, emergency equipment and supplies will be stored in or near the Control Room. The location, type and quantity of emergency equipment and supplies available is specified in the Emergency Plan Administrative Procedures.

5.1.2 Technical Support Center (TSC)

The TSC is located on the 1st floor of the Operations Support Facility (OSF), which is outside but adjacent to the Protected Area. The TSC meets the requirements of NUREG-0696 for size and habitability, including a filtered HVAC system that can be isolated in the event of a radiological accident.

A backup electrical power source is designated in the event of a loss of the normal power supply. UPS capability is provided to designated electrical outlets to ensure that a transient loss of power does not occur to significant communications, dose projection, and data acquisition and display systems.

A room is provided for use by NRC response team members and the Resident Inspector during a declared emergency event. This conference room provides a workspace and telephone communications for a minimum of five (5) people.

Records and drawings, which describe conditions and layout of structures, systems, and components, are contained in filing cabinets inside the TSC.

5.1.3 Operational Support Center (OSC)

The OSC is located on the 305' Elevation of the Service Building. The OSC conforms to the requirements of Section H.1.c of the Three Mile Island (TMI) Station Radiological Emergency Plan.

The OSC serves as a muster area for shift personnel and as a location to organize and dispatch emergency response teams (i.e., onsite radiological monitoring, fire brigade, rescue operations, damage control, and maintenance). Emergency equipment and supplies, including portable radios, portable lighting, protective clothing, and respirators, are maintained in emergency lockers located or adjacent to in the OSC. Additional emergency equipment, such as gamma and air monitoring equipment can be made promptly available to the OSC if needed.

In the event the OSC is not habitable, personnel report to backup facilities that can be designated based upon specific event conditions.

5.1.4 Emergency Operations Facility (EOF)

The dedicated Emergency Operations Facility (EOF) is located on Exelon property at 175 North Caln Road, Coatesville, PA, approximately 50 miles from the TMI Site. The EOF supports Peach Bottom and Limerick Generating Station, in addition to TMI Station, under the Three Mile Island (TMI) Station Radiological Emergency Plan.

Primary staffing of the Coatesville facility will be from the Exelon Nuclear Mid-Atlantic Region Office located in Kennett Square, PA, which is approximately 18 miles drive (11 miles straight line distance) from the Coatesville facility.

Plant Process Computer (PPC) subsets of screens were developed for EOF use. These screens provide for the display of basic Safety Parameter Display System (SPDS) points and designated EP data screens. The Coatesville EOF is equipped with multiple projectors in the Main Room for the display of these data screens. The designated EP screens, feed off a database from the TMI Station PPC, are available via an Ethernet LAN connection. A backup LAN has also been established via a Token Ring LAN from the TMI Site through the PECO Main Office Building in Philadelphia, PA. to ensure continued access to plant operational, radiological and meteorological data.

The Coatesville facility has a designated diesel generator and uninterruptible power supply (UPS) as a backup power source in the event of a loss of normal power.

The EOF equipment includes:

- Supplies and equipment for EOF personnel, and
- Sanitary and food preparation facilities.

Separate offices are provided for Exelon Nuclear, NRC, State representatives and other emergency personnel.

5.1.5 Joint Information Center (JIC)

The Joint Information Center (JIC) is the facility in which media personnel gather to receive information related to the emergency event. The JIC is co-located with the EOF at 175 North Caln Road, Coatesville, Pennsylvania.

5.1.6 Processing Center

The Processing Center will be continuously manned by Site Security personnel, unless otherwise directed based on the Nuclear Station Security Plan. Emergency equipment and supplies will be maintained in this facility to support such tasks as reentry efforts, performing onsite and offsite radiation surveys or collecting airborne samples. The exact location and the type and quantity of emergency equipment and supplies are specified under the applicable Emergency Plan Administrative Procedures.

5.1.7 Alternative Facility

The Alternative Facility maintains the capability for staging the TSC/OSC emergency response organization personnel in the event of a hostile action. This alternative facility has the capability for communications with the emergency operations facility, control room, and plant security and the capability for engineering assessment activities, including damage control team planning and preparation. Consistent with NRC EPFAQ No. 2013-005, the EOF will satisfy the offsite notification responsibilities for the Alternative Facility. The Alternative Facility is located at the Londonderry Fire Hall 2655 Foxianna Road, Middletown, Pennsylvania. **(CM-1, ref. AR 1362747.44)**

5.2 **Assessment Resources**

5.2.1 Radiation Monitoring System

The onsite Radiation Monitoring System contributes to personnel protection, equipment monitoring, data gathering, and accident assessment by measuring and recording radiation levels and concentrations of radioactive material at selected locations within the plant. The Radiation Monitoring System alarms and initiates required emergency actions when radiation levels or radionuclide concentrations exceed predetermined levels. Area, liquid, and atmospheric monitoring subsystems are required to perform these functions. Specific details regarding radiation monitoring and effluent monitoring systems can be found in system design descriptions (SDDs), site Final Safety Analysis Reports, and the TMI Radiation Monitoring Setpoint Procedures.

The data from these subsystems are displayed by readout in the Control Room. Selected channels are recorded by recorders and/or the plant process computer, which are also located in the Control Room.

In general the radiation monitoring equipment is designed in accordance with the following:

- Each monitoring station has adjustable alarm, alert, and power supply failure alarms.
- Solid-state circuitry is used except for primary detectors.
- Most AC operated radiation monitoring equipment, except for the pump assemblies, is provided with power from the battery-backed, inverter-fed vital power supply bus.
- Each radiation monitor is capable of being checked periodically with solenoid actuated check sources.
- A pulse generator or solid sources are used for electrically checking each monitor or subsystem.
- The modules are designed so that an alarm and/or indication is initiated when failure occurs anywhere in the channel.

1. Area Radiation Monitoring

The TMI-1 area radiation monitoring subsystem is comprised of channels, which utilize an ion chamber detector housed in a weatherproof container.

2. DELETED

3. Atmospheric Radiation Monitoring

Each installed atmospheric monitor (except the condenser off-gas, ESF ventilation exhaust and waste gas monitor) is comprised of a particulate measuring channel, iodine measuring channel, and a gaseous measuring channel. The atmospheric radiation monitor subsystem is comprised of monitors with fixed and movable particulate filters, and fixed radioiodine filters. Representative samples are obtained by means of a sampling head placed in a ventilation duct.

Movable airborne monitors are typically used in the spent fuel handling area during refueling operations and in the radiochemical laboratory during laboratory sample preparation operations. These monitors are supplemented with various other portable radiation monitors. Each monitor contains three channels for particulate, iodine, and gaseous monitoring, respectively.

4. Liquid Radiation Monitoring

The liquid radiation monitoring subsystem is comprised of monitors, each of which has a sampler, detector, and Control Room ratemeter module (exceptions are the IWTS/IWFS discharge monitor, waste treatment system discharge monitor and the turbine building sump pump). The monitors provide visual indications in the Control Room.

5.2.2 Fire Protection Devices

TMI has implemented and maintains a Fire Protection Program as described in the updated FSAR for TMI-1. The Fire Protection Program is controlled under TMI-1 license conditions.

5.2.3 Seismic Monitoring

Strong motion recording systems at TMI measures ground motion and structural vibrating response caused by an earthquake occurring in the vicinity of the site. Cassette magnetic tape recorders located in the TMI-1 Control Room receive information supplied by triaxial sensor units which are firmly mounted on the Reactor Building. One triaxial sensor unit is attached immediately outside of the containment wall at the base of the Reactor Building. A second triaxial sensor is situated along the same Reactor Building axis, but is attached to the Reactor Building ring girder. The triaxial sensor units begin to supply seismic data to the magnetic tape recorder after a signal is sent to the sensors by a remote starter unit. A remote starter unit attached to the base of the Reactor Building provides a signal for its systems sensor units when the starter unit detects a ground acceleration greater than a present threshold level. The remote starter also actuates an annunciator in the TMI-1 control room labeled "Threshold Seismic Condition". If the ground acceleration exceeds the horizontal or vertical setpoints, a seismic trigger, also mounted on the base of the Reactor Building, will cause a TMI-1 annunciator labeled "Operating Basis Earthquake" to actuate.

The time history of a ground motion and resulting vibrating response can be displayed by using magnetic tape cassettes containing the recorded data, and the magnetic tape playback system in the control rooms. The magnetic tape playback system produces visual playouts of selected magnetically recorded data. This is accomplished with a strip chart recorder built into the playback system. A visual playout allows quick analysis of the earthquake. The magnetic tapes are available also for detailed analysis.

Peak reading accelerographs are anchored to Class 1 selected items. These accelerographs will produce a permanent record of the peak amplitude of the low frequency accelerations caused by seismic disturbances.

This record is in the form of magnetic erasure clips which must be developed using the magnetic developer kit. After developing, these clips can be examined to verify seismic response which had been determined analytically.

5.2.4 Onsite Meteorological Monitors

At TMI, basic meteorological information is obtained from a weather tower maintained at the north end of the Island. Real time information can be obtained from the plant process computer.

The meteorological measurement system is deployed on a 150 ft. tower. It measures wind speed and wind direction at 98 ft. and 145 ft. above grade. There are redundant speed and direction sensors at the 98 ft. level. Temperature is measured at both 31 ft. and 145 ft. from two sets of platinum sensors. Temperature difference (ΔT) is also derived and recorded. A recorder located inside the meteorological building adjacent to the weather tower records all of the above information. The Control Room also has a recorder with wind speed, direction, temperature, and differential temperature which is an indication of atmospheric stability.

Meteorological data can be remotely interrogated by telephone by NRC and Commonwealth of Pennsylvania.

Protective Measures personnel are capable of making real-time offsite estimates of atmospheric effluent transport and diffusion following an accidental airborne radioactive release from the plant. Real time meteorological information is obtained from the plant process computer. The recorder at the meteorological building located at the north end of TMI has a storage capacity of several months of data. Beyond that time period the meteorological data is permanently stored in a history file. Back-up meteorological information is available from the National Weather Service directly and indirectly from other sources that collect National Weather Service information.

5.2.5 Process Monitors

Process monitors measure appropriate parameters that are indicative of the status of various plant systems and the reactors. These parameters are displayed and recorded in the Control Room, or at local panels in the plant

5.2.6 Laboratory Facilities

The TMI laboratory facility is equipped to provide the water chemistry and radiochemical analysis support required during normal plant operations and emergencies.

5.3 **Protective Facilities and Equipment**

Personnel protective action is a function of the nature of the hazard (e.g., preparing for a hurricane is somewhat different from preparing for radiological hazards). Preplanned responses to basic hazards, high wind, flooding, earthquakes, and radiation exposure, are an integral part of the Emergency Plan. A fundamental concept in personnel protection is the evacuation of all individuals not essential to the operation, safety, security, and damage control of the plant. Obviously, some hazards can occur before significant protective action can be applied (e.g., earthquake). When the situation permits positive action, the appropriate alarms are sounded and all personnel on the site either assume assigned emergency responsibilities or prepare for evacuation.

Provision has been made for adequate supplies and protective equipment for all personnel who may be required to perform emergency activities. Specific quantities of each type are detailed in station procedures and include equipment for personnel monitoring, determining the magnitude and continuously assessing the impact of the release of radioactive material, decontaminating personnel and providing emergency first aid. Additionally, a current prescription and adequate supplies of potassium iodide are maintained for issue to personnel exposed or suspected of exposure to radioactive iodine.

Onsite locations have been designated as emergency assembly points or areas where emergency teams will be assembled in accordance with the Emergency Plan Implementing Procedures or as directed by the Station Emergency Director. Major locations for onsite protective equipment and supplies are the Control Room, access control point, and processing center. Additional information regarding protective facilities can be obtained by consulting the UFSAR.

5.3.1 First Aid and Medical Equipment

A first aid facility is designed to support a wide range of immediate care requirements ranging from simple first aid to procedures requiring a physician.

Small kits placed throughout the plant provide the most readily available first aid. These kits contain items typically needed to care for minor injuries. Typical contents can be referenced in Table TMI 5-1. The next level of first aid equipment is found at first aid stations. The medical staff can also provide Advanced Life Support and routine trauma care.

5.3.2 Damage Control Equipment

The TMI plant site is extensively equipped to conduct preventive maintenance and repairs on mechanical, structural, electrical, and instrumentation and controls equipment found in the plant.

In addition to the equipment and materials required for normal maintenance, other items are available to handle extraordinary maintenance jobs that might arise in damage control. Selection of damage control equipment inventory is based upon (a) mitigating the consequences of flooding, (b) personnel rescue, (c) checking the uncontrolled flow of fluids from process systems, and (d) elimination of electrical hazards. Typical equipment available for damage control can be found in Table TMI 5-1.

5.3.3 Radiation Protection Equipment

The TMI plant site maintains an inventory of protective clothing, respiratory equipment, survey instruments and supplies to provide adequate contamination control for all personnel expected to be onsite who might be affected in the event of an emergency.

The supplies are maintained, updated, inventoried and calibrated, as appropriate, on a regular basis in accordance with applicable procedures. Storage locations of emergency supplies can be found in the site implementing documents. Typical equipment available can be found in Table TMI 5-1.

5.3.4 Emergency Equipment Readiness

Designated emergency equipment and supplies and their storage locations will be listed in the Emergency Plan Implementing Documents. Such equipment and supplies will be maintained, inventoried, inspected and calibrated in accordance with approved site procedures. Equipment, supplies, and parts having shelf-lives will be checked and replaced as necessary.

To ensure that the necessary emergency equipment is maintained and available for use during emergency situations, readiness checklists have been developed and incorporated in Administrative Procedures. These checklists facilitate detailed inventory and calibration/functional checks of equipment contained in the emergency kits/lockers. The inventory checklists will be performed on a quarterly basis and to ensure interim readiness, all kits/lockers are sealed or locked as appropriate.

Any deficiencies found during the inventory and inspection will be either cleared immediately or documented for corrective action. A report of each inventory and inspection, including documented deficiencies, will be prepared and submitted to the Emergency Preparedness Manager. He will ensure that cognizant department heads assign personnel to correct deficiencies and shall ensure that identified deficiencies are corrected in a reasonable period of time.

5.4 First Aid and Medical Facilities

5.4.1 Decontamination and Medical Response

Emergency first aid and medical treatment will be given to injured personnel who may or may not be contaminated. Shift personnel, trained in first aid, will be available onsite on a 24-hour per day basis and will assist contaminated personnel at the scene of the accident. Provisions have been made, through agreements, to ensure contaminated and injured personnel will receive specialized medical treatment, if necessary. Local hospitals in the vicinity of the TMI site have agreed to accept contaminated patients for emergency medical and surgical treatment and/or observation.

A comprehensive program of radiological control for injured/contaminated personnel has been developed and will be instituted when necessary during an emergency. The primary emphasis will be to initially address traumatic or life-threatening injuries since radiation injuries may not be immediately life threatening.

Detailed instructions for treatment and transportation of contaminated and injured individuals are specified in appropriate procedures.

5.4.2 Medical Transportation

Agreements have been made with local medical support organizations to provide ambulance services to the site. Ambulance personnel will be certified in accordance with State regulations. TMI will offer training to the squad members in the treatment and transportation of contaminated injured individuals. TMI will provide radiological control technicians if available to assist the squads enroute to the hospital. TMI or local first aid squads provide ambulance service for the facility.

When affected personnel must be transported, measures will be taken to prevent the spread of contamination. Such measures will include placing affected personnel in "clean" protective clothing or wrapping in blankets. The Emergency Director will ensure that these organizations, which provide the transportation and treatment, are alerted.

Detailed instructions for treatment and transportation of contaminated and injured individuals are specified in appropriate procedures.

A Letter of Agreement is established with the local Emergency Medical Services agencies to provide Emergency Medical Services in response to a Radiological Event including a Hostile Action Based Event. This includes transportation of patients from TMI, including those who may have been exposed to radiation or may have injuries complicated by radioactive contamination, to the Penn State Milton S. Hershey Medical Center (HMC) or Pinnacle Health Harrisburg Hospital upon dispatch by the Dauphin County Emergency Dispatch.

5.4.3 Medical Treatment

Arrangements for hospital and medical services for injured or contaminated / overexposed personnel are provided for by letters of agreement.

The first level of treatment can be given on-site by personnel trained in first aid. If the severity of the injury requires more extensive or prolonged treatment, the patient will be transported for the second level of assistance. For conventional injuries (that is, non-radiation injuries), the patient will be transported to any of the local hospitals.

Arrangements for hospital and medical services for injured and/or contaminated/overexposed personnel are provided by Pinnacle Health Harrisburg Hospital and Penn State Milton S. Hershey Medical Center. These hospitals have agreed to accept contaminated patients for emergency medical and surgical treatment or observation. Detailed plans and procedures are in place for decontamination and treatment of contaminated patients.

A Letter of Agreement is established for Pinnacle Health Harrisburg Hospital and Penn State Milton S. Hershey Medical Center to provide assistance in support of the Radiological Emergency Plan at Three Mile Island Station to the extent of their capabilities should an emergency situation, including hostile action based event, occur at the Three Mile Island Station.

5.5 Communications

5.5.1 Station to State / Local Communications Circuits

In addition to the Nuclear Accident Reporting System (NARS), the Bureau of Radiation Protection (BRP) Line is available for communications from the TMI Station with designated State / Local agencies: The BRP line is dedicated for use by the TSC to communicate plant status and radiological information to the BRP. Internal plant radiological assessment and discussions leading to the development of protective action recommendations should not occur over this circuit.

5.5.2 Station Telephone System

An EP Private Branch Exchange (PBX), separate from the Site PBX System, is available to support emergency communications. The EP PBX is powered from the OSF (TSC) UPS battery. The EP PBX provides 3-digit dialing and telephone stations can be grouped. The EP PBX has been set-up to support various intra-facility communications links as described in Section F.1 to the Three Mile Island (TMI) Station Radiological Emergency Plan.

Intra-facility and off-site communications are also supported by the existing Site PBX (948) phones.

The Site PBX System will be used to support various point-to-point communications serving the following functions:

- Environmental Assessment (TSC / EOF)
- In-Plant Radiological Controls (TSC/OSC)
- NRC Site Team (CR / TSC / OSC / EOF)

A separate drop off the Site PBX, referred to as the Off-Premise Exchange (OPX), is provided for EP communication purposes. The Site PBX is a DC-powered system with batteries receiving power through chargers fed from a normal AC source. Estimated battery life is 8 hours. The OPX supports the Bureau of Radiation Protection (BRP) Line communications link.

Both the EP PBX and OPX (Site PBX) are routed via a common mix, originating in the Service Building, to the local telephone exchange. From the central mix located in the Service Building, the EP PBX (copper lines) and Site PBX (fiber optics) are routed along the same path to the local telephone central office (CO). No physical separation is in place nor required to reduce the probability of a common off-site failure (e.g., excavation, etc.).

The Nuclear Accident Reporting System (NARS) emergency communications system is also an EP Communication link to the offsite agencies. The primary communications method for the NARS line is via a dedicated Voice over IP connection, with automatic failover to satellite communications. The VoIP system is powered via a UPS with an 8 hour

estimated battery life. The backup communications for these links are provided by commercial telephone lines.

The availability of the satellite telephone provides reasonable backup to bypass this localized point of failure.

U.S. NRC telephones are on the Corporate PBX system from the Station, which is powered locally at the local office.

The Maintenance and Instrumentation telephone system also provides maintenance personnel with a direct communications circuit to the Control Room from strategic locations throughout the plant. The Maintenance and Instrumentation Phone System consists of three essentially independent circuits: the Nuclear Subsystem, the Turbine Subsystem, and the Fuel Handling Subsystem.

These circuits are designed for use between two or more locations during operations when direct communications between operators and/or maintenance personnel is required. Handsets and headsets are provided. The system is operable when headsets and/or handsets are plugged into the various stations of the three subsystems.

5.5.3 Coatesville EOF Telephone System

A dedicated Private Branch Exchange (PBX) is installed at the Coatesville facility to support emergency communications. This switch will control telephone communications in and between the facility, other Exelon locations, and non-Exelon locations.

Two separate T-1 leased lines are used from the TMI Site PBX to the Coatesville facility PBX to support intra-facility communications and offsite notifications. Separate carriers are used for each T-1 line to provide redundancy, with an auto "fail over" (transfer) feature incorporate to ensure continued communications over the various EP intra-facility circuits

The Coatesville facility PBX is designed with a 4-hour to provide a backup power source to the phone switch in the event of a simultaneous loss of normal power and the designated emergency diesel generator.

In the event of a PBX failure, outside dial capability is available through trunk lines from the Coatesville Service Building via the Corporate Sonic Link to the PECO Main Office Facility in Philadelphia, PA. These lines are designed to bypass the local central office (CO) to another site for commercial dial tone, if required.

In addition, designated power failure phone jacks that bypass the Coatesville PBX, are located at key workstations in the EOF to support continued communications in the event of a complete loss of electrical power to the Coatesville facility.

5.5.4 Radio Communications

Radio communication equipment used during normal plant operations will be used in an emergency to communicate with mobile units and to provide backup to the telephone system.

At TMI, radio capabilities include the following frequencies from Control Room, OSC, TSC, CAS/SAS and mobile vehicle / potable units, as applicable:

- TMI Operations Frequencies
- TMI Security Frequency
- Environmental and Radiological System Frequency
- Maintenance and Rad Con Frequency

Dedicated channels on the redundant T-1 lines to the TMI radio bay station in the TSC Radiological Assessment Room will allow access from the existing Coatesville multi-channel, fixed base radio system used under the common Emergency Plan for LGS & PBAPS. At the TSC bay station, the T-1 lines will tie into the Station Radio System, thus allowing the use of the existing Environmental and Radiological Frequency for communications with field survey team within the TMI 10-mile Emergency Planning Zone (EPZ).

The fixed base radio repeaters, antenna system and radio consoles for the Coatesville EOF are powered from a variety of emergency AC sources (diesel backup and alternate battery supplies).

5.5.5 Station Warning System

1. **Alarms**

Audible alarms are a quick and effective means of communicating emergency warnings on the site. Alarms currently installed at TMI include:

- Station Emergency Alarm
- Fire Alarm

Each alarm provides a distinctive sound that all site personnel and contractors are trained to recognize and respond to. The Station Emergency Alarm will be followed by an announcement that provides emergency information such as class of emergency declared, accountability directions, radiological precautions, etc.

The Control Room alarm systems consist of overhead annunciators, panel annunciators and computer alarms. The overhead and panel annunciators consist of flashing translucent tiles and audible indicators (i.e., buzzer or horn). The computer alarms use annunciators and also provide specific data using the alarm printer. At TMI-1, alarm data is also provided by CRTs.

2. **Plant Paging System**

The Plant Paging System provides plant-wide paging from the Control Room and all remote stations plus private communications during normal operating conditions.

The plant paging system provides immediate warning and instructions to onsite personnel in the event of an emergency. Phone stations and speakers of this subsystem are located in vital plant areas.

5.6 Law Enforcement Agencies

A Letter of Agreement is established for Local Law Enforcement to support Three Mile Island Station to respond to a Radiological Event including a Hostile Action Based Event, in conjunction with the National Incident Management System in accordance with the established communications protocol.

5.7 Fire Fighting Organizations

A Letter of Agreement is established for the Local Fire Departments to respond to a Radiological Event including a Hostile Action Based Event, in conjunction with the Mutual Aid System, upon dispatch by the Dauphin and/or Lancaster County Emergency Dispatch Service

TABLE TMI 5-1: Inventory of Emergency Kits By General Category**I. RADIATION MONITORING****A. Typical Contents**

1. Full Face Respirators with Canisters
2. Survey Instruments - Radiation Survey Meters, Count Rate Meters
3. Dosimetry Equipment - Dosimeters/Chargers
4. Protective Clothing
5. Air Sampler and Cartridges
6. Support Materials - Paper, Pencils, Envelopes, Maps, Procedures, Etc.

II. FIRST AID**A. Minor Injury**

1. Contain items typically needed for minor injuries.
2. Placed throughout Plant

B. Employee Kits

1. Contain sufficient quantities to serve expected needs of approximately 100 employees.

NOTE: Locations as determined by Medical Department.

- a. Stretchers
- b. Employee size first aid kits

C. First Aid and Medical Facility

1. Equipment inventory to support professional medical treatment.
2. Contains equipment necessary for examination of patients.

III. DAMAGE CONTROL

A. Typical Equipment Available

1. Hand tools
2. Cutting/Welding equipment
3. Patching materials
4. Portable blowers
5. Submersible pumps
6. Electrical equipment

APPENDIX 1: NUREG-0654 CROSS-REFERENCE

<u>Annex Section</u>	<u>NUREG-0654</u>
1.0	Part I, Section A
1.1	Part I, Section B
1.2	Part I, Section D
1.3	Part I, Section D
Figure TMI 1-1	Part I, Section D
Figure TMI 1-2	Part II, Section J.10
Figure TMI 1-3	Part II, Section J.10
Figure TMI 1-4	Part II, Section J.10 & 11
2.0	Part II, Section B.1
2.1	Part II, Section B.5
2.2	Part II, Section A.3
2.3	Part II, Section C.3
2.4	Part II, Section B.1 & 2
3.0	Part II, Section D
3.1	Part II, Section D.1 & 2
3.2	Part II, Section D.1 & 2
3.3	Part II, Section D.1 & 2
3.4	Not Applicable
3.5	Part II, Section D.3
Table TMI 3-1	Part II, Section D.1 & 2
Table TMI 3-2	Part II, Section D.1 & 2
4.1	Part II, Section E.1 & J.7
4.2	Part II, Section I.2 & 3
4.3	Part II, Section J.10.f
4.3.1	Part II, Section E.6
4.3.2	Part II, Section J.8
4.3.3	Part II, Section J.6.c
4.3.4.a	Part II, Section G.1 & 2
4.3.4.b	Part II, Section G.5
4.3.5	Part II, Section J.7
4.4.1	Part II, Section K.5 & 7
4.4.2	Part II, Section J.5
4.4.3	Part II, Section J.3
4.5	Not Applicable
EP-AA-111	Part II, Section I.2 & 3
Figure TMI 4-1	Part II, Section J.4
Figure TMI 4-2	Part II, Section J.4
5.1.1	Part II, Section B.1
5.1.2	Part II, Section H.1
5.1.3	Part II, Section H.1
5.1.4	Part II, Section H.2 & G.3.b
5.1.5	Part II, Section G.3.a
5.2.1	Part II, Section H.5.b, H.6.c & I.2
5.2.2	Part II, Section H.5.d

APPENDIX 1: NUREG-0654 CROSS-REFERENCE

<u>Annex Section</u>	<u>NUREG-0654</u>
5.2.3	Part II, Section H.5.a
5.2.4	Part II, Section H.5.a & 8
5.2.5	Part II, Section H.5.c
5.2.6	Part II, Section H.6.c
5.2.7	Not Applicable
5.2.8	Part II, Section H.6.b & 7, I.9-10
5.3	Part II, Section H.9-10
5.4	Part II, Section L.1 & 2
5.5	Part II, Section F.1
Table TMI 5-1	Part II, Section H.11
Appendix 1	Part II, Section P.8
Appendix 2	Part II, Section P.4

APPENDIX 2: SITE-SPECIFIC LETTERS OF AGREEMENT

The following is a listing of letters of agreement, memorandum of understanding, and contracts specific to emergency response activities in support of the TMI Station. Letters of agreement, memorandum of understanding, and contracts common to multiple Exelon Nuclear stations are listed under Appendix 3 to the Three Mile Island (TMI) Station Radiological Emergency Plan.

Local County Response Agencies

- Pennsylvania Emergency Management Agency Memorandum of Understanding (MOU) (letter on file)

NOTE: Documentation of agreement for Cumberland, Dauphin, Lancaster, Lebanon, and York counties are contained as part of the agreement with PEMA.

Medical Support Organizations and Personnel

- Londonderry Volunteer Fire Company (ambulance service)
- South Central Emergency Medical Services Inc.
- Northwest Emergency Medical Services
- Hershey Medical Center
- Pinnacle Health Harrisburg Hospital

Firefighting Organizations

NOTE: These are supplemented by Mutual Aid agreements with other firefighting organizations.

- Bainbridge Volunteer Fire Company (Lancaster Co.)
- Middletown Volunteer Fire Department
- Londonderry Volunteer Fire Company
- Elizabethtown Fire Department
- Lower Swatara Volunteer Fire Department
- Susquehanna Area Regional Airport Authority (SARAA)

Other Agencies

- Norfolk Southern Railway Company
- AREVA *
- Harrisburg Area Community College
- Londonderry Volunteer Fire Department (staging area)

Law Enforcement Agencies

- Pennsylvania State Police#

Agreements with State and local law enforcement agencies are maintained by Station Security under the Nuclear Station Security Plan.

* Agreement is a Services and Materials Agreement maintained by Exelon BSC, Corporate Supply.

THREE MILE ISLAND ERO STAFFING ASSESSMENT MATRIX

	A	B	C	D	E	F	G	H	I	J
1	Facilty	Current ERO Position	Position Eliminated	Min Staff	NRC PI Key ERO	Tasks defined by Station Emergency Plan ('E-' are E plan and 'P-' are procedure tasks)	Task Disposition (Eliminated/ Reassigned To)	Justification / Implementing action	Tasks transferred to this position per this Assessment	E-Plan Section Reference
2	MCR	Shift Manager (Shift Emergency Director) MSED	No	Yes	Yes	E-MSSED1 - Activate the ERO as deemed appropriate or as procedurally required.				EP-TMI-1000, Part II, Section B.5.a.1
3						E-MSSED2 - Perform duties outlined for the Station Emergency Director. The responsibilities described for the Station Emergency Director applies to either the Shift Emergency Director or the Station Emergency Director depending on which individual is in Command and Control.				
4						E-MSSED3 - Shutdown the reactor when determined that the safety of the reactor is in jeopardy or when operating parameters exceed any of the reactor protection circuit set-points and automatic shutdown does not occur.	Eliminate	Reactor operation is not applicable in a permanently defueled condition.		
5						E-MSSED4 - Ensure a review has been completed to determine the circumstance, cause, and limits under which operations can safely proceed before the reactor is returned to power following a trip or an unscheduled or unexplained power reduction.	Eliminate	Reactor operation is not applicable in a permanently defueled condition.		
6						E-MSSED5 - Be present at the plant and provide direction for returning the reactor to power following a trip or an unscheduled or unexplained power reduction.	Eliminate	Reactor operation is not applicable in a permanently defueled condition.		
7						E-MSSED6 - Adhere to the station Technical Specifications and review routine operating data to assure safe operation.				
8						E-MSSED7 - Identify applicable EALs and emergency classifications.				
9						E-MSSED8 - Adhere to plant operating procedures and the requirements for their use.				
10						E-MSSED9 - Supervise the activities of the Control Room Crew, ~~Operations-Communicator and Damage Control Communicator in the Control Room.~~	Modify	Revise step to delete reference to eliminated positions (Ops Communicator and Damage Control Communicator)		

THREE MILE ISLAND ERO STAFFING ASSESSMENT MATRIX

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1	Facility	Current ERO Position	Position Eliminated	Min Staff	NRC PI Key ERO	Tasks defined by Station Emergency Plan ('E-' are E plan and 'P-' are procedure tasks)	Task Disposition (Eliminated/ Reassigned To)	Justification / Implementing action	Tasks transferred to this position per this Assessment	E-Plan Section Reference
11	MCR	CR Operations Communicator MOC	Yes	No	No	E-MOC1 - Establish communications with appropriate parties as directed.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		EP-TMI-1000, Part II, Section B.5.a.4.c
12						E-MOC2 - Transmit information that has been reviewed and/or approved by the responsible Manager or Coordinator.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
13						E-MOC3 - Document time, date and information being transmitted or received on appropriate forms.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
14						E-MOC4 - Record and relay inquiries and the responses to those inquiries.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
15						E-MOC5 - Assist appropriate Managers and Coordinators in maintaining proper records and logs of emergency related activities.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
16						E-MOC6 - Gather, record and post appropriate information.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
17						E-MOC7 - Apprise the TSC and EOF staff of the overall plant condition and significant changes to system and equipment status.	Duplicate Task (E-TOC7)	Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
18						E-MOC8 - Inform the Control Room, TSC, and EOF of significant changes in event status (e.g. changes in classification, command and control, initiation of station assembly, accountability, evacuation, etc.).	Duplicate Task (E-TOC8)	Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		

THREE MILE ISLAND ERO STAFFING ASSESSMENT MATRIX

	A	B	C	D	E	F	G	H	I	J
1	Facility	Current ERO Position	Position Eliminated	Min Staff	NRC PI Key ERO	Tasks defined by Station Emergency Plan ('E-' are E plan and 'P-' are procedure tasks)	Task Disposition (Eliminated/ Reassigned To)	Justification / Implementing action	Tasks transferred to this position per this Assessment	E-Plan Section Reference
19	MCR	CR Damage Control Communicator MDCC	Yes	No	No	E-MDCC1 - Establish communications with appropriate parties as directed.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		EP-TMI-1000, Part II, Section B.5.a.4.b
20						E-MDCC2 - Transmit information that has been reviewed and/or approved by the responsible Manager or Coordinator.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
21						E-MDCC3 - Document time, date and information being transmitted or received on appropriate forms.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
22						E-MDCC4 - Record and relay inquiries and the responses to those inquiries.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
23						E-MDCC5 - Assist appropriate Managers and Coordinators in maintaining proper records and logs of emergency related activities.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
24						E-MDCC6 - Gather, record and post appropriate information.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
25						E-MDCC7 - Relay requests from the Control Room and TSC for the dispatching of OSC Teams.	Duplicate Task (E-TDCC7)	Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
26						E-MDCC8 - Apprise the station emergency response facilities of the status of OSC Team activities.	Eliminate	Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		

THREE MILE ISLAND ERO STAFFING ASSESSMENT MATRIX

	A	B	C	D	E	F	G	H	I	J
1	Facility	Current ERO Position	Position Eliminated	Min Staff	NRC PI Key ERO	Tasks defined by Station Emergency Plan ('E-' are E plan and 'P-' are procedure tasks)	Task Disposition (Eliminated/ Reassigned To)	Justification / Implementing action	Tasks transferred to this position per this Assessment	E-Plan Section Reference
27	TSC	Station Emergency Director TED	No	Yes	Yes	E-TED1 - Perform all non-delegable responsibilities as the Emergency Director in Command and Control until relieved by the EOF.	Eliminate	Shift Emergency Director will transfer directly Emergency Director responsibilities to the Corporate Emergency Director at the EOF.		EP-TMI-1000, Part II, Section B.5.a.2
28						E-TED2 - Conduct personnel assembly/accountability and evacuation of non-essential personnel at Site Area Emergency, General Emergency or as conditions warrant.				
29						E-TED3 - If the emergency involves a hazardous substance and/or oil discharges, ensure that appropriate notifications and response have been made.				
30						E-TED4 - Determine if the OSC is to remain activated at the Alert Classification.				
31						E-TED5 - Event classification				
32						E-TED6 - Emergency exposure controls.				
33						E-TED7 - Protective actions for all onsite personnel.				
34						E-TED8 - Supervision of the Station ERO.				
35						E-TED9 - Inform the Corporate Emergency Director and onsite NRC as to the status of the plant.				
36						E-TED10 - Assist the Corporate Emergency Director in the acquisition of information for the state/local notifications, NRC notifications and offsite agency updates.				
37						E-TED11 - Provide information and recommendations to the Corporate Emergency Director.				
38						E-TED12 - Implement plans, procedures and schedules to meet emergency response objectives as directed by the Corporate Emergency Director.				
39						E-TED13 - Request from the Corporate ERO any additional material, personnel resources or equipment needed to implement response plans and operations				
40						E-TED14 - Assume the duties and responsibilities of Decision-Maker when a transition to Severe Accident Management Guidelines (SAMGs) is initiated. This responsibility can be delegated to the Operations Manager if qualified.	Eliminate	This action is deleted as SAMGs are no longer applicable to a permanently shutdown reactor.		
41	TSC	TSC Director TSCD	Yes	Yes	Yes	E-TSCD1 - Verify that qualified individuals are filling Communicator positions in the Control Room, TSC and OSC.	Eliminate	Exelon personnel are responsible to ensure their qualifications for assigned ERO positions.		EP-TMI-1000, Part II, Section B.5.a.3
42						E-TSCD2 - Supervise the activities of the Logistics Coordinator and state/local Communicator.	Eliminate	This activity is an oversight function and not a critical task for emergency response capability. Both the TSC Logistics Coordinator and the TSC State / Local communicator positions are eliminated.		
43						E-TSCD3 - Ensure that communications are established with appropriate parties as directed by the Station Emergency Director	Eliminate	Communication between facilities will be maintained by facility Directors and function leads as described in position procedures.		
44						E-TSCD4 - Ensure that all required notifications to offsite governmental agencies (state/local and NRC) are timely and accurate.	Eliminate	This activity is an oversight function and the task is performed by other ERO positions i.e., ENS Communicator (E-TENS2) and State/Local Communicator (E- ESL1)		
45						E-TSCD5 - Act as the Exelon Nuclear Liaison to any NRC Site Team Representatives.	Eliminate	This action is redundant to TSC Tech Manager task number E-TTM8		
46						E-TSCD6 - Ensure that the NRC Site Team Representatives are directed to their appropriate counterparts.	Reassign to TSC Technical Manager			
47						E-TSCD7 - Assist the Corporate Emergency Director in the acquisition of information for off-site agency updates.	Eliminate	This activity is an assist function and the task is performed by the Station Emergency Director. (E-TED10)		
48						E-TSCD8 - Record and relay inquiries to the Station Emergency Director. In addition, record responses to such inquiries prior to transmission.	Eliminate	Inquiries for the Station Emergency Director will be made directly to Station Emergency Director without support from the TSC Director.		
49						E-TSCD9 - Assist the Station Emergency Director in maintaining proper records.	Eliminate	This activity is an assist function and the task is performed by the Station Emergency Director.		

THREE MILE ISLAND ERO STAFFING ASSESSMENT MATRIX

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1	Facility	Current ERO Position	Position Eliminated	Min Staff	NRC PI Key ERO	Tasks defined by Station Emergency Plan ('E-' are E plan and 'P-' are procedure tasks)	Task Disposition (Eliminated/ Reassigned To)	Justification / Implementing action	Tasks transferred to this position per this Assessment	E-Plan Section Reference
50	TSC	ENS Communicator TENS	No	Yes	a	E-TENS1 - Establish communications with appropriate parties as directed.				EP-TMI-1000, Part II, Section B.5.a.4.e
51						E-TENS2 - Transmit information that has been reviewed and/or approved by the responsible Manager or Coordinator.				
52						E-TENS3 - Document time, date and information being transmitted or received on appropriate forms.				
53						E-TENS4 - Record and relay inquiries and the responses to those inquiries.				
54						E-TENS5 - Assist appropriate Managers and Coordinators in maintaining proper records and logs of emergency related activities.				
55						E-TENS6 - Gather, record and post appropriate information.				
						E-TENS7 - Notify the NRC of changes in event classification, ~~prior to the EOF accepting Command and Control,~~ and assist ~~the EOF ENS Communicator~~ in completing the NRC Event Notification Worksheet and responding to NRC inquiries.	Modify	The TSC will maintain ENS notification, this function will not be transferred to the EOF.		
56						E-TENS8 - Provide real time updates of significant changes to plant and system status and responses to NRC inquiries.				
57						E-TENS9 - Maintain continuous communications with the NRC, if requested, via the NRC ENS phone or commercial telephone line.				
58										
	TSC	State / Local Communicator TSL	Yes	No	No	E-TSL1 - Establish communications with appropriate parties as directed.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		EP-TMI-1000, Part II, Section B.5.a.4.a
59										
						E-TSL2 - Transmit information that has been reviewed and/or approved by the responsible Manager or Coordinator.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
60										
						E-TSL3 - Document time, date and information being transmitted or received on appropriate forms.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
61										
						E-TSL4 - Record and relay inquiries and the responses to those inquiries.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
62										
						E-TSL5 - Assist appropriate Managers and Coordinators in maintaining proper records and logs of emergency related activities.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
63										
						E-TSL6 - Gather, record and post appropriate information.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
64										
						E-TSL7 - Communicate and receive information via the Nuclear Accident Reporting System (NARS) circuit or commercial telephone line with appropriate agencies prior to the EOF accepting Command and Control.	Eliminate	EOF State / Local Communicator will have responsibility for State and Local Communications and related tasks.		
65										
						E-TSL8 - Monitor NARS communications until released by the TSC Director.	Eliminate	This task is unnecessary because NARS communication is initially assigned to the EOF (E-ESL1)		
66										

THREE MILE ISLAND ERO STAFFING ASSESSMENT MATRIX

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67	TSC	HPN Communicator THPN	Yes	No	No	E-THPN1 - Establish communications with appropriate parties as directed.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		EP-TMI-1000, Part II, Section B.5.a.4.f
68						E-THPN2 - Transmit information that has been reviewed and/or approved by the responsible Manager or Coordinator.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
69						E-THPN3 - Document time, date and information being transmitted or received on appropriate forms.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
70						E-THPN4 - Record and relay inquiries and the responses to those inquiries.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
71						E-THPN5 - Assist appropriate Managers and Coordinators in maintaining proper records and logs of emergency related activities.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
72						E-THPN6 - Gather, record and post appropriate information.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
73						E-THPN7 - Maintain continuous communications with the NRC, if requested, via the NRC Health Physics Network (HPN) phone or commercial telephone line.	Eliminate	Based on reduced scope and consequences of accidents associated with defueled reactor, the need for maintaining a specific HPN communicator is not required. The EOF will staff a generic NRC communicator as a full augmentation positon to perform this function if needed.		
74						E-THPN8 - Communicate current Health Physics information to NRC representatives, as requested.	Eliminate	Based on reduced scope and consequences of accidents associated with defueled reactor, the need for maintaining a specific HPN communicator is not required. The EOF will staff a generic NRC communicator as a full augmentation positon to perform this function if needed.		
75						E-THPN9 - Coordinate the communications of radiological information to the NRC with the EOF HPN Communicator (onsite vs. environmental data).	Eliminate	Based on reduced scope and consequences of accidents associated with defueled reactor, the need for maintaining a specific HPN communicator is not required. The EOF will staff a generic NRC communicator as a full augmentation positon to perform this function if needed.		

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76	TSC	TSC Operations Communicator TOC	Yes	No	No	E-TOC1 - Establish communications with appropriate parties as directed.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		EP-TMI-1000, Part II, Section B.5.a.4.c
77						E-TOC2 - Transmit information that has been reviewed and/or approved by the responsible Manager or Coordinator.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
78						E-TOC3 - Document time, date and information being transmitted or received on appropriate forms.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
79						E-TOC4 - Record and relay inquiries and the responses to those inquiries.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
80						E-TOC5 - Assist appropriate Managers and Coordinators in maintaining proper records and logs of emergency related activities.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
81						E-TOC6 - Gather, record and post appropriate information.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
82						E-TOC7 - Apprise the TSC and EOF staff of the overall plant condition and significant changes to system and equipment status.	Reassigned to TSC Operations Manager	Communication between facilities will be maintained by facility Directors and function leads.		
83						E-TOC8 - Inform the Control Room, TSC, and EOF of significant changes in event status (e.g. changes in classification, command and control, initiation of station assembly, accountability, evacuation, etc.).	Reassigned to TSC Operations Manager	Communication between facilities will be maintained by facility Directors and function leads.		

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84	TSC	TSC Technical Communicator TTC	Yes	No	No	E-TTC1 - Establish communications with appropriate parties as directed.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		EP-TMI-1000, Part II, Section B.5.a.4.d
85						E-TTC2 - Transmit information that has been reviewed and/or approved by the responsible Manager or Coordinator.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
86						E-TTC3 - Document time, date and information being transmitted or received on appropriate forms.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
87						E-TTC4 - Record and relay inquiries and the responses to those inquiries.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
88						E-TTC5 - Assist appropriate Managers and Coordinators in maintaining proper records and logs of emergency related activities.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
89						E-TTC6 - Gather, record and post appropriate information.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
90						E-TTC7 - Establish and maintain contact with the EOF Technical Advisor.	Eliminate	The EOF Technical Advisor is being removed from the SEP and managed and controlled by EPIPs.		
91						E-TTC8 - Provide EOF with updates on technical support activities and priorities	Reassign to the TSC Technical Manager	Based on reduced scope and consequences of accidents associated with defueled reactor, communication between facilities will be maintained by facility Directors and function leads and updates from the Technical communicator will not be required.		

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92	TSC	TSC Damage Control Communicator TDCC	Yes	No	No	E-TDCC1 - Establish communications with appropriate parties as directed.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		EP-TMI-1000, Part II, Section B.5.a.4.b
93						E-TDCC2 - Transmit information that has been reviewed and/or approved by the responsible Manager or Coordinator.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
94						E-TDCC3 - Document time, date and information being transmitted or received on appropriate forms.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
95						E-TDCC4 - Record and relay inquiries and the responses to those inquiries.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
96						E-TDCC5 - Assist appropriate Managers and Coordinators in maintaining proper records and logs of emergency related activities.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
97						E-TDCC6 - Gather, record and post appropriate information.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
98						E-TDCC7 - Relay requests from the Control Room and TSC for the dispatching of OSC Teams.	Re-assign to Maintenance Manager	Based on reduced scope and consequences of accidents associated with defueled reactor, communication between facilities will be maintained by facility Directors and function leads and updates from the Technical communicator will not be required.		
99						E-TDCC8 - Apprise the station emergency response facilities of the status of OSC Team activities.	Eliminate	This task is being performed by the TSC Maintenance Manager under E-TMM4		

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100	TSC	Operations Manager TOM	No	Yes	Yes	E-TOM1 - In the event that the Station Emergency Director becomes incapacitated and can no longer fulfill the designated responsibilities, the Operations Manager will normally assume the responsibilities until relieved by another qualified Station Emergency Director.			E-TOC7 - Apprise the TSC and EOF staff of the overall plant condition and significant changes to system and equipment status.	EP-TMI-1000, Part II, Section B.5.a.5
101						E-TOM2 - Coordinate TSC efforts in determining the nature and extent of emergencies pertaining to equipment and plant facilities in support of Control Room actions.			E-TOC8 - Inform the Control Room, TSC, and EOF of significant changes in event status (e.g. changes in classification, command and control, initiation of station assembly, accountability, evacuation, etc.).	
102						E-TOM3 - Initiate immediate corrective actions to limit or contain the emergency invoking the provisions of 10 CFR 50.54(x) if appropriate, and specifically when addressing Severe Accident Management Guidelines.	Modify	Delete reference to SAMGs since SAMGs will not be applicable to a permanently shutdown condition.		
103						E-TOM4 - Recommend equipment operations checks and miscellaneous actions to the Control Room in support of restoration and accident mitigation.				
104						E-TOM5 - Approve emergency special procedures, and implement as required under the provisions of 10 CFR 50.54(x).				
105						E-TOM6 - Assist the Maintenance Manager in determining the priority assigned to OSC activities.				
106						E-TOM7 - Organize and direct medical response efforts for injured personnel.				
107						E-TOM8 - Ensure adequate staffing of the Control Room and TSC subordinates.				
108						E-TOM9 - Ensure the Shift Manager is informed of OSC staffing utilization and activities.				
109						E-TOM10 - Identify steps or procedures that the Operations staff should be utilizing to properly respond to the emergency condition.				
110						E-TOM11 - Assist the Station Emergency Director in evaluating changes in event classification.				
111						E-TOM12 - Supervise the activities of the Operations Communicator and the ENS Communicator in the TSC.	Modify	Revise to delete reference to Operations Communicator in E-plan and replace with ENS Communicator in the TSC.		
112						E-TOM13 - Act as the TSC liaison with the appropriate NRC Site Team Representative.				
113						E-TOM14 - At the direction of the Station Emergency Director, assume the duties and responsibilities of the Evaluator, or Decision-Maker if qualified, when transition to Severe Accident Management Guidelines (SAMG) is initiated.	Eliminate	SAMG is no longer required for a permanently defueled reactor.		

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114	TSC	Technical Manager TTM	No	Yes	Yes	E-TTM1 - Accumulate, tabulate and evaluate data on plant conditions.			E-TSCD6 - Ensure that the NRC Site Team Representatives are directed to their appropriate counterparts.	EP-TMI-1000, Part II, Section B.5.a.6
115						E-TTM2 - Evaluate plant parameters during an emergency to determine the overall plant condition.			E-TTC8 - Provide EOF with updates on technical support activities and priorities	
116						E-TTM3 - Coordinate core damage assessment activities.	Eliminate	This activity does not apply to a permanently shutdown condition.		
117						E-TTM4 - Identify data points and control parameters that the Operations staff should monitor.				
118						E-TTM5 - Ensure that current and adequate technical information is depicted on status boards.				
119						E-TTM6 - Identify and direct staff in the development of special procedures needed to effect long term safe shutdown or to mitigate a release.	Modify	Revise task to read "• Identify, develop and implement special procedures needed to mitigate a release."		
120						E-TTM7 - Supervise the total onsite technical staff effort.	Eliminate	Based on reduced scope and consequences of accidents associated with defueled reactor, the need for dedicated engineering staff is no longer needed.		
121						E-TTM8 - Act as the TSC liaison with state and appropriate NRC Site Team representatives.				
122						E-TTM9 - Assist the Radiation Protection Manager for onsite radiological/technical matters.				
123						E-TTM10 - Assist the Station Emergency Director in evaluating plant based PARs (prior to Corporate Emergency Director accepting command and control) and changes in event classification.	Eliminate	The performance of PARs is no longer supported in the TSC. This function is directly transferred from on-shift to the EOF.		
124						E-TTM11 - Supervise the activities of the TSC Technical Communicator.	Eliminate	Task has been deleted to eliminate reference to TSC Technical communicator in E-plan since the TSC Technical Communicator position is eliminated.		
125						E-TTM12 - Assume the duties and responsibilities of an Evaluator when transition to Severe Accident Management Guidelines (SAMG) is initiated and supervise the activities of the SAMG Evaluator Team.	Eliminate	SAMG is no longer required for a premanently defueled reactor.		
126	TSC	Core Thermal Engineer TCTE	Yes	Yes	No	E-TCTE1 - Engineering Support	Eliminate	Core assessment and the associated Engineering support not required after fuel removed from reactor vessel.		EP-TMI-1000, Part II, Section B.5.a.7
127						E-TCTE2 - Serves as Core Damage Assessment Methodology (CDAM) Evaluator	Eliminate	Core assessment and the associated Engineering support not required after fuel removed from reactor vessel.		
128	TSC	Mechanical Engineer TME	Yes	Yes	No	E-TME1 - Engineering Support	Eliminate	Fleet Engineering support is available 24 / 7 through fleet Nuclear Duty Officer and Engineering Duty Manager as needed. See LAR Attachment 1 for additional justification.		EP-TMI-1000, Part II, Section B.5.a.7
129	TSC	Electrical Engineer TEE	Yes	Yes	No	E-TEE1 - Engineering Support	Eliminate	Fleet Engineering support is available 24 / 7 through fleet Nuclear Duty Officer and Engineering Duty Manager as needed. See LAR Attachment 1 for additional justification.		EP-TMI-1000, Part II, Section B.5.a.7
130	TSC	Logistics Coordinator TLC	Yes	No	No	E-TLC1 - Coordinate shift relief and continual staffing of the station.	Eliminate	This is an support/assist activity that does not impact the performance of the Emergency Planning Standard functions. With the all call philosophy additional personnel will report to the ERF and can establish shift relief. In addition, the EOF will continue to staff a logistics organization, that is managed and controlled via EPIPs.		EP-TMI-1000, Part II, Section B.5.a.8
131						E-TLC2 - Arrange for clerical staff at the TSC, OSC and Control Room.	Eliminate	This is an support/assist activity that will be managed by the TSC staff as needed. With the cessation of operation the need for dedicated clerical staff is not expected to be needed.		
132						E-TLC3 - Assist the Security Coordinator in coordinating ERO and station activities in support of on-going security contingency, accountability or site/area evacuation efforts.	Eliminate	This activity is an assist function, the task will be conducted by the TSC Security Coordinator, a minimum staff position, with no additional support.		
133						E-TLC4 - Support the processing of special procedures and interim reports during an emergency.	Eliminate	This task is performed by the TSC Technical Manager. (E-TOM5)		

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134						E-TLC5 - Ensure that event status and priority logs are being maintained in the TSC.	Eliminate	This activity is an oversight function, each member of the TSC staff are expected to maintain electronic/paper logs and maintain the electronic status boards in WebEOC.		
135						E-TLC6 - Coordinate record-keeping efforts at the station.	Eliminate	Individually owned activity. Records are maintained through use of electronic status boards and position logs by ERO members.		

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136						E-TLC7 - Arrange for food, sleeping facilities and other necessary accommodations for onsite emergency workers.	Eliminate	This is an support/assist activity that will be managed by available TSC individuals and supported by EOF logistics staff that will be managed and controlled by EPIPs.		
137						E-TLC8 - Arrange for specialized training of Emergency Response personnel as needed.	Eliminate	This is an support/assist activity that will be managed by available TSC individuals and supported by EOF logistics staff that will be managed and controlled by EPIPs.		
138	TSC	TSC Radiation Protection Manager TRPM	No	Yes	Yes	E-TRPM1 - Accumulate, tabulate and evaluate data on plant conditions such as meteorological and radiological monitoring readings, and other pertinent data.			E-TRCC4 - Monitor habitability concerns impacting access to plant and site areas.	EP-TMI-1000, Part II, Section B.5.a.9
139						E-TRPM2 - Act as the TSC liaison with the appropriate NRC Site Team representative.			E-TRCC5 - Assemble and dispatch the Field Monitoring Teams as required.	
140						E-TRPM3 - Ensure use of protective clothing, respiratory protection, and access control within the plant as deemed appropriate to control personnel exposures.			E-TRCE3 - Evaluate radiological and hazardous material surveys and chemistry sample results as appropriate.	
141						E-TRPM4 - Ensure that appropriate bioassay procedures have been implemented for onsite personnel when a radioactivity incident has occurred.				
142						E-TRPM5 - Ensure that personnel are decontaminated, if necessary.				
143						E-TRPM6 - Authorize personnel exposures below 5 Rem TEDE (EPA-400 lower limit).				
144						E-TRPM7 - Assist the Station Emergency Director in determining if exposures in excess of the 5 Rem TEDE (EPA-400 lower limit) are necessary.				
145						E-TRPM8 - Advise the Station Emergency Director of situations when the use of KI should be considered.				
146						E-TRPM9 - Assist the Station Emergency Director in evaluating dose-based PARs (prior to Corporate Emergency Director accepting command and control) and changes in radiological event classification.	Eliminate	The performance of PARs is no longer supported in the TSC. This function is directly transferred from on-shift to the EOF.		
147						E-TRPM10 - Advise the Station Emergency Director and EOF Radiation Protection Manager of changes in radiological release status.				
148						E-TRPM11 - Assist the Operations Manager in planning rescue operations and provide monitoring services as required, including the transfer of injured and/or contaminated personnel.				
149						E-TRPM12 - Coordinate with the Security Coordinator to determine the routes to be used for evacuation of non-essential personnel.				
150						E-TRPM13 - Assure additional radiation protection personnel and/or equipment is arranged for, as necessary.				
151	TSC	Rad Controls Coordinator TRCC	Yes	No	No	E-TRCC1 - Support the OSC Radiation Protection Lead in the dispatching of OSC Teams.	Eliminate	This activity is an assist function. OSC Radiation Protection Lead position eliminated and OSC teams and associated leads will be called in as necessary.		EP-TMI-1000, Part II, Section B.5.a.11
152						E-TRCC2 - Assist the Operations Manager in planning radiological controls for personnel dispatched from the Control Room.	Eliminate	This activity is an assist function and the task is performed by the TSC Radiation Protection Manager. (E-TRPM 3)		
153						E-TRCC3 - Ensure the proper use of protective clothing, respiratory protection, and access controls in the plant as appropriate to control personnel exposure.	Eliminate	This activity is an assist function and the task is performed by the TSC Radiation Protection Manager. (E-TRPM 3)		
154						E-TRCC4 - Monitor habitability concerns impacting access to plant and site areas.	Reassign to TSC Radiation Protection Manager	The TSC RPM currently has the responsibility for this function, and the task was delegated to the RCC. This will now be solely performed by the TSC RPM.		
155						E-TRCC5 - In coordination with the OSC Radiation Protection Lead, assemble and dispatch the Field Monitoring Teams as required.	Reassign to TSC Radiation Protection Manager	Revise to delete reference to RP Lead in E-Plan. The FMTs will report to the TSC to obtain equipment and briefing by TSC RPM. Upon dispatch they will be under control of the EOF Dose Assessment Coordinator.		

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156						E-TRCC6 - Supervise the activities of the HPN Communicator in the TSC.	Eliminate	HPN Communicator function deleted from the TSC. With cessation of power operations the complexity of the source term and release path significantly reduce the need for this position. See Attachment 1 Section 5.2.3. The EOF will maintain this function managed and controlled under EPIPs.		
157						E-TRCC7 - Request additional Radiation Protection personnel and/or equipment, as necessary in support of station activities and staff relief.	Eliminate	The OSC Director will request additional support thru the TSC Maintenance Manager. TSC Maintenance Manager will engage EOF support as needed. The logistics function in the EOF is maintained, however, managed and controlled thru EPIPs.		
158						E-TRCC8 - Prior to EOF Protective Measures Group staffing, perform dose assessments and provide appropriate dose-based PARs.	Eliminate	Dose assessment will transfer directly to EOF per the same time commitments as the TSC.		
159						E-TRCC9 - Prior to EOF Protective Measures Group staffing, coordinate Field Monitoring Team activities.	Eliminate	The coordination of the Field Monitoring Teams is addressed under the EOF Dose Assessment Coordinator/EOF RPM who is a minimum staff position and will be available upon arrival of the Field Team personnel who are also minimum staff.		
160						E-TRCC10 - Prior to EOF Protective Measures Group staffing, monitor meteorological conditions and remain cognizant of forecast data.	Eliminate	This task is performed by EOF Dose Assessment Coordinator (E- EDAC4)		
161						E-TRCC11 - Following EOF Protective Measures Group staffing, transfer responsibility of the Field Monitoring Teams to the EOF Environmental Coordinator when appropriate.	Eliminate	Field Team Control and dose assessment will be directed from the EOF and will not be transferred from the TSC.		
162						E-TRCC12 - Following EOF Protective Measures Group staffing, transfer responsibility of dose assessment activities to the EOF Dose Assessment Coordinator.	Eliminate	Field Team Control and dose assessment will be directed from the EOF and will not need to be transferred from the TSC.		
163						E-TRCC13 - Following EOF Protective Measures Group staffing, assist the EOF Environmental Coordinator in the acquisition of information for the off-site agency updates.	Eliminate	Technological advances allow EOF Protective Measures Group to obtain information from Plant Process Computer and site TSC RPM.		
164	TSC	Rad Controls Engineer TRCE	Yes	No	No	E-TRCE1 - Monitor area and process radiation monitors to identify trends and potential hazards within the station.	Eliminate	Task is performed by TSC Radiation Protection Manager. (E-TRPM1)		EP-TMI-1000, Part II, Section B.5.a.10
165						E-TRCE2 - Evaluate plant environmental factors regarding radiological and other hazardous material conditions.	Eliminate	Task is performed by TSC Radiation Protection Manager. (E-TRPM1)		
166						E-TRCE3 - Evaluate radiological and hazardous material surveys and chemistry sample results as appropriate.	Reassign to TSC Radiation Protection Manager	The TSC RPM currently has the responsibility for this function, and the task was delegated to the RCE. This will now be solely performed by the TSC RPM.		
167						E-TRCE4 - Direct the performance of sampling activities through coordination with the OSC Chemistry Lead in support of operations and core damage estimates as necessary.	Eliminate	Core offloaded and core damage estimates no longer required.		
168						E-TRCE5 - Coordinate radiological and chemistry information with the Core/Thermal Hydraulic Engineer in support of core damage assessment.	Eliminate	Core offloaded / Core / Thermal Hydraulic Engineer position eliminated and core damage estimates no longer required.		
169	TSC	Maintenance Manager TMM	No	Yes	No	E-TMM1 - Direct the total onsite maintenance and equipment restoration effort.			E-TDCC7 - Relay requests from the Control Room and TSC for the dispatching of OSC Teams.	EP-TMI-1000, Part II, Section B.5.a.12
170						E-TMM2 - Request additional equipment in order to expedite recovery and restoration.				
171						E-TMM3 - Supervise the activities of the OSC Director and the TSC Damage Control Communicator.	Modify	Delete reference to the TSC Damage Control Communicator. This position was eliminated based on reduced scope of potential events.		
172						E-TMM4 - Ensure the Operations Manager is informed of OSC staffing utilization and activities.				
173						E-TMM5 - In coordination with the Operations Manager, determine the priority assigned to OSC activities.				
174						E-TMM6 - Ensure adequate staffing of the OSC.				
175						E-TMM7 - Assist in rescue operations.				
176						E-TMM8 - Identify required procedures that need to be written or implemented in support of the response efforts.				

THREE MILE ISLAND ERO STAFFING ASSESSMENT MATRIX

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177	TSC	Security Coordinator TSEC	No	No	No	E-TSEC1 - Maintain plant security and account for all personnel within the protected area.				EP-TMI-1000, Part II, Section B.5.a.13
178						E-TSEC2 - Assist the Station Emergency Director in evaluating changes in security related threats and event classifications.				
179						E-TSEC3 - Identify any non-routine security procedures and/or contingencies that are in effect or that require a response.				
180						E-TSEC4 - Expedite ingress and egress of emergency response personnel.				
181						E-TSEC5 - Coordinate with the Radiation Protection Manager in controlling ingress and egress to and from the Protected Area if radiological concerns are present.				
182						E-TSEC6 - Provide for access control to the Control Room, TSC and OSC, as appropriate.				
183						E-TSEC7 - Expedite entry into the Protected Area, as necessary, for the NRC Site Team.				
184						E-TSEC8 - Act as the TSC liaison with the appropriate NRC Site Team representative.				
185						E-TSEC9 - Assist the Radiation Protection Manager in determining personnel evacuation routes as necessary.				
186						E-TSEC10 - Coordinate the evacuation of station non-essential personnel with the appropriate Local Law Enforcement Agencies (LLEAs).				
187	TSC	Field Monitoring Team #1 (2 persons)	No	Yes	No	Field Team Member				EP-TMI-1000, Part II, Section B.5.b.10
188	TSC	Field Monitoring Teams #2 (2 persons)	No	Yes	No	Field Team Member				EP-TMI-1000, Part II, Section B.5.b.10
189	TSC	Clerical staff	Yes	No	No	No Specific E Plan tasks.		Clerical support can be called in as needed.		
190	OSC	OSC Director ODIR	No	Yes	Yes	E-ODIR1 - • Assign tasks to OSC Pooled Resources designated Leads as available: (Operations, Mech Maint, Elec/I&C Maint, Rad Protection and Chemistry)	Modify	Removed reference to "designated Leads" Based on reduced scope of events the need for designated leads is no longer required. There will only be a pool of resources.	E-OADIR3 - Assist in formation of sampling teams.	EP-TMI-1000, Part II, Section B.5.a.14
191						E-ODIR2 - Coordinate with the OSC Operations Lead in the dispatch of Operations personnel to support Control Room and OSC Team activities.	Eliminate	Based on reduced scope of events there will not longer be an operations pool. All operations activities will remain under the control of the Shift Manager and Shift Supervisor.	E-OADIR6 - Coordinate with the OSC Leads to organize in-plant teams to support station priorities.	
192						E-ODIR3 - Notify the Control Room and TSC prior to dispatch of any OSC teams into the plant.			E-OADIR7 - Ensure that in-plant team dispatch briefings include expected activities and radiological hazards.	
193						E-ODIR4 - Maintain OSC resources including personnel, material, and equipment.				
194						E-ODIR5 - Maintain accountability for all individuals dispatched from the OSC.				
195						E-ODIR6 - Conduct periodic briefings on the overall plant status, emergency response activities, and station priorities.				
196										
197	OSC	Assistant OSC Director OADIR	Yes	No	No	E-OADIR1 - Assist the OSC Director in supervising personnel assigned to the OSC.	Eliminate	This activity is an assist function and the task is assigned to OSC Director. (E-ODIR1)		EP-TMI-1000, Part II, Section B.5.1.15
198						E-OADIR2 - Assist in formation of Field Monitoring Teams as directed by the TSC.	Eliminate	This is an assist function and task is performed by TSC RPM. (E-TRCC5)		
199						E-OADIR3 - Assist in formation of sampling teams.	Reassign to OSC Director			
200						E-OADIR4 - Ensure that records of in-plant survey information and radiochemistry results are maintained.	Eliminate	This activity is an oversight function; records and in plant survey information are maintained by responsible responding OSC personnel.		
201						E-OADIR5 - Ensure that accumulated exposure records for all essential onsite personnel are maintained.	Eliminate	This activity is an oversight function and accumulated exposure records will be maintained by responding RP personnel as needed.		
202						E-OADIR6 - Coordinate with the OSC Leads to organize in-plant teams to support station priorities.	Reassign to OSC Director			
203						E-OADIR7 - Ensure that in-plant team dispatch briefings include expected activities and radiological hazards.	Reassign to OSC Director			

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204						E-OADIR8 - Ensure that periodic facility briefings are conducted on plant radiological conditions.	Eliminate	This activity is an oversight function and the task is performed by OSC Director. (E-ODIR6)		
205	OSC	Chemistry Pool (1)	Yes	Yes	No	OSC Responder	Eliminate	No predefined activities to transfer. Personnel will be called in and perform duties as needed. See Attachment 1, Section 5.2.4 for additional detail.		EP-TMI-1000, Part II, Section B.5.a.16

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206	OSC	Electrical / I&C Pool (2)	Yes	Yes	No	OSC Responder	Modify	The need for an I&C Maintenance Technician is not required due to limited scope in permanently shutdown and defueled condition. See Attachment 1, Section 5.2.5 for additional details. The need for a group lead is not required due to size of pool. Pool will be managed by the OSC Director.		EP-TMI-1000, Part II, Section B.5.a.16
207	OSC	Mechanical Pool (1)	Yes	Yes	No	OSC Responder		No predefined activities to transfer. Personnel will be called in and perform duties as needed. See Attachment 1, Section 5.2.4 for additional detail. The need for a group lead is not required due to size of pool. Pool will be managed by the OSC Director.		EP-TMI-1000, Part II, Section B.5.a.16
208	OSC	Radiation Protection Pool (8)	Yes	Yes	No	OSC Responder	Modify	The proposed pool is (3) RP personnel. See Attachment 1, Section 5.2.6 for additional detail. The need for a group lead is not required due to size of pool. Pool will be managed by the OSC Director.		EP-TMI-1000, Part II, Section B.5.a.16
209	OSC	OSC Damage Control Communicator ODCC	Yes	No	No	E-ODCC1 - Establish communications with appropriate parties as directed.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		EP-TMI-1000, Part II, Section B.5.a.4.b
210						E-ODCC2 - Transmit information that has been reviewed and/or approved by the responsible Manager or Coordinator.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
211						E-ODCC3 - Document time, date and information being transmitted or received on appropriate forms.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
212						E-ODCC4 - Record and relay inquiries and the responses to those inquiries.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
213						E-ODCC5 - Assist appropriate Managers and Coordinators in maintaining proper records and logs of emergency related activities.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
214						E-ODCC6 - Gather, record and post appropriate information.	Eliminate	Generic Communication Task. Based on reduced scope and consequences of accidents associated with defueled reactor, communication between Emergency Response Facilities (ERFs) can occur directly between facility leads without reduction in emergency response capability.		
215						E-ODCC7 - Relay requests from the Control Room and TSC for the dispatching of OSC Teams.	Duplicate Task (E-TDCC7)	Task to relay requests will be performed by the TSC Maintenance Manager who will communicate directly with the OSC Director (E-TDCC7)		
216						E-ODCC8 - Apprise the station emergency response facilities of the status of OSC Team activities.	Eliminate	Based on reduced scope and consequences of accidents associated with defueled reactor, communication between ERFs can occur directly between Maintenance Director and OSC Director without reduction in emergency response capability.		

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217	EOF	Corporate Emergency Director EED	No	Yes	Yes	E-EED1 - ~~When the Station Emergency Director has Command and Control,~~ Coordinate all Exelon Nuclear activities involved with the emergency response.	Modify	There is a direct transfer from the on-shift Emergency Director to the Corporate ED. The Station ED no longer takes command and control of an event from the on-shift ED, although he does retain some non-delegable functions.	E-ETSM3 - Provide information to the ~~EOF Director~~ State and Local Communicator for completing the state/local notification form.	EP-TMI-1000, Part II, Section B.5.b.2
218						E-EED2 - ~~When the Station Emergency Director has Command and Control,~~ Ensure off-site agency updates are periodically communicated as required/requested.	Modify	There is a direct transfer from the on-shift Emergency Director to the Corporate ED. The Station ED no longer takes command and control of an event from the on-shift ED, although he does retain some non-delegable functions.		
219						E-EED3 - ~~When the Station Emergency Director has Command and Control,~~ Coordinate Exelon Nuclear press releases with the Nuclear Duty Officer and Exelon Communications and Public Affairs.	Modify	There is a direct transfer from the on-shift Emergency Director to the Corporate ED. The Station ED no longer takes command and control of an event from the on-shift ED, although he does retain some non-delegable functions.		
220						E-EED4 - ~~When the Station Emergency Director has Command and Control,~~ Request assistance from non Exelon Nuclear emergency response organizations, as necessary.	Modify	There is a direct transfer from the on-shift Emergency Director to the Corporate ED. The Station ED no longer takes command and control of an event from the on-shift ED, although he does retain some non-delegable functions.		
221						E-EED5 - Following assumption of Command and Control, Assumes overall Command and Control of emergency response activities and the non-delegable responsibilities for PAR determination and the notification of offsite authorities.				
222						E-EED6 - Following assumption of Command and Control, Ensure that Federal, state and local authorities and industry support agencies remain cognizant of the status of the emergency situation. If requested, dispatch informed individuals to offsite governmental Emergency Operation Centers (EOCs).				
223						E-EED7 - Following assumption of Command and Control, Approve the technical content of Exelon Nuclear press releases prior to their being released to the media.				
224	EOF	EOF Director EOD	Yes Relocated to EPIP	Yes	Yes	E-EOD1 - Direct and coordinate the activation and response efforts of the EOF staff in support of the Corporate Emergency Director.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.b.3
225						E-EOD2 - Evaluate the need to augment the EOF staff based on events in progress.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
226						E-EOD3 - Assess the effectiveness of ongoing EOF working relationships.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
227						E-EOD4 - Monitor information flow within the EOF to ensure that facility activities remain coordinated.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
228						E-EOD5 - Prepare state/local notification forms with the assistance of the EOF Radiation Protection Manager and the Technical Support Manager.	Reassign to EOF SL Communicator			
229						E-EOD6 - Coordinate services as necessary to support EOF operations.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
230						E-EOD7 - Coordinate with the Administrative Coordinator for continual shift staffing requirements.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		

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231						E-EOD8 - Assist in the conduct of Corporate Emergency Director duties.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
232						E-EOD9 - Act as the designated alternate for approval of the technical content of Exelon Nuclear Press Releases and information released to the News Media.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
233						E-EOD10 - Act as purchasing agent in support of the TSC for contract negotiation/administration.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		

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234	EOF	Technical Support Manager ETSM	Yes Relocated to EPIP	No	No	E-ETSM1 - Assist the Corporate Emergency Director in monitoring changes in event classification.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.b.4
235						E-ETSM2 - Assist the Corporate Emergency Director in determining plant-based PARs when necessary.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
236						E-ETSM3 - Provide information to the EOF Director for completing the state/local notification form.	Reassign to Corp Emergency Director			
237						E-ETSM4 - Provide the Corporate Emergency Director information concerning the status of plant operations, and recommendations for mitigating the consequences of the accident.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
238						E-ETSM5 - Coordinate the overall Exelon Nuclear engineering support from corporate staff and unaffected stations.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
239						E-ETSM6 - Interface with Industry and contractor engineering support organizations.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
240						E-ETSM7 - Ensure that the EOF Radiation Protection Manager is informed of changes in plant status that impacts or potentially impacts the offsite environment or PARs.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
241						E-ETSM8 - Provide technical information on facility and system design.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
242						E-ETSM9 - Assist in the development of post-accident recovery measures.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
243	EOF	Operations Advisor EOA	Yes	No	No	E-EOA1 - Monitor the Operations Status Line to keep apprised of: Control Room activities including progress on Emergency Operating Procedures; Significant changes in plant system/equipment status and critical parameters: Possible changes in event classification	Eliminate	This position is staffed by TMI Personnel, with Operations level of knowledge. With cessation of operation, this level of knowledge is no longer required in the EOF to address issues related to SFP mitigation activities.		EP-TMI-1000, Part II, Section B.5.b.5
244						E-EOA2 - Identify and track critical parameters for the identification and trending of current plant status information.	Eliminate			
245						E-EOA3 - Assist the station in identifying Operations resources from corporate staff or unaffected stations for direct support of plant shift operations personnel.	Eliminate			
246						E-EOA4 - Assist the ENS Communicator in the completion of the NRC Event Notification Worksheet and in responding to NRC inquiries.	Eliminate			
247						E-EOA5 - Ensure that the EOF Radiation Protection Manager is informed of changes in plant status that impact or potentially impact the offsite environment or PARs.	Eliminate			

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248	EOF	ENS Communicator EENS	Yes Relocated to EPIP	No	No	E-EENS1 - Notify the NRC of changes in event classification. Generally, the TSC ENS Communicator focuses on real time plant operations and the EOF ENS Communicator focuses on notifications following changes in event classification and overall changes in event response or status.	Eliminate	This task is addressed in E-TENS7. The distinction between the types of information which the TSC/EOF ENS communicator focuses on is removed. This position is removed from SEP and is managed and controlled by EPIPs		EP-TMI-1000, Part II, Section B.5.b.6
249						E-EENS2 - Establish and maintain continuous communications with the NRC, if requested, via the NRC ENS phone or commercial telephone line.	Eliminate	This task is performed by TSC ENS communicator. (E-TENS1 and E-TENS9) This position is removed from SEP and is managed and controlled by EPIPs		
250						E-EENS3 - Coordinate NRC communications with the ENS Communicator in the TSC.	Eliminate	ENS Function will remain at the TSC with the TSC ENS Communicator and will not be transferred to the EOF. This position is removed from SEP and is managed and controlled by EPIPs		
251	EOF	Technical Advisor ETA	Yes Relocated to EPIP	No	No	E-ETA1 - Monitor the Technical Conference Line to remain aware of TSC technical support activities, strategies and priorities.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.b.7
252						E-ETA2 - Assist the Dose Assessment Coordinator in acquiring technical information pertaining to release pathway and core damage assessment.	Eliminate			
253						E-ETA3 - Supervise the activities of the Events Recorder.	Eliminate			
254	EOF	Events Recorder EER	Yes Relocated to EPIP	No	No	E-EER1 - Gather/record approved information on status boards as requested.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.b.8
255						E-EER2 - Maintain an event chronology/status log.	Eliminate			
256	EOF	EOF Radiation Protection Manager ERPM	No	Yes	Yes	E-ERPM1 - Recommend changes in event classification and PARs based upon effluent releases or dose projections.			E-EENVC4 - Determine needs of the Dose Assessment Coordinator, the Dose Assessor, the HPN Communicator for updates on Field Monitoring Team data and ensure distribution of new data to them in accordance with those needs.	EP-TMI-1000, Part II, Section B.5.b.9
257						E-ERPM2 - Assist the EOF Corporate Emergency Director in the evaluation of the significance of an emergency with respect to the public.	Modify	Revised to reflect that this will not be a delagated task.	E-EENVC5 - Upon request, provide environmental data to Emergency Public Information personnel.	
258						E-ERPM3 - Notify the EOF Corporate Emergency Director of meteorological changes that may impact identification of downwind areas.	Modify	Revised to reflect that this will not be a delagated task.	E-EENVC6 - Evaluate and coordinate additional equipment and personnel as necessary from unaffected stations to augment and/or relieve station Field Monitoring Teams.	
259						E-ERPM4 - Advise the Corporate Emergency Director of protective actions taken by the station for plant personnel.				
260						E-ERPM5 - Assist the TSC in the planning and coordination of activities associated with the evacuation of non-essential personnel.				
261						E-ERPM6 - Advise the Corporate Emergency Director on the need for emergency exposures or for issuance of KI to the Field Monitoring Teams or Exelon personnel required to enter the plume.				
262						E-ERPM7 - Determine the need for and contact Occupational Health/Industrial Safety Services personnel for assistance.				
263						E-ERPM8 - Monitor plant radiological conditions and advise the TSC Radiation Protection Manager of any adverse trends or potential release pathways that may impact existing event classification.				
264						E-ERPM9 - Assist in the completion and review of the state/local notification form.				
265						E-ERPM10 - Maintain cognizance of environmental sampling activities.				
266						E-ERPM11 - Ensure state authorities are provided information pertaining to Exelon Field Monitoring Team activities and sample results.				
267						E-ERPM12 - Assist the affected station in planning and coordination of activities associated with the evacuation of non essential personnel.				
268						E-ERPM13 - Assist the affected station in acquisition of additional instrumentation, dosimetry, protective equipment and radiological support personnel.				
269						E-ERPM14 - Assist and interface with the EOF Technical Support Group and the station in the development of plans for plant surveys, sampling, shielding, and special tools in support of waste systems processing and design modification activities.				

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270						E-ERPM15 - Upon request, provide in-plant health physics data to Emergency Public Information personnel and the HPN Communicator.	Modify	HPN communicator is removed from SEP and is managed and controlled by EPIPs.		

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271	EOF	Environmental Coordinator EENVC	Yes Relocated to EPIP			E-EENVC1 - Coordinate the transfer of control of the Field Monitoring Teams if initially under the direction of the TSC Radiological Controls Coordinator.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.b.10
272						E-EENVC2 - Ensure communications are established with the TSC to obtain information on the accident conditions, meteorological conditions and estimates of radioactive material releases.	Reassign to EOF Dose Assessment Coordinator			
273						E-EENVC3 - Maintain cognizance of Field Monitoring Team exposure. When warranted, ask the Dose Assessment Coordinator to initiate an evaluation of the need for administering KI to Exelon nuclear workers.	Reassign to EOF Dose Assessment Coordinator			
274						E-EENVC4 - Determine needs of the Dose Assessment Coordinator, the Dose Assessor, and the HPN Communicator for updates on Field Monitoring Team data and ensure distribution of new data to them in accordance with those needs.	Reassign to EOF Radiation Protection Manager	Update this task to delete positions which have been removed		
275						E-EENVC5 - Upon request, provide environmental data to Emergency Public Information personnel.	Reassign to EOF Radiation Protection Manager			
276						E-EENVC6 - Evaluate and coordinate additional equipment and personnel as necessary from unaffected stations to augment and/or relieve station Field Monitoring Teams.	Reassign to EOF Radiation Protection Manager			
277	EOF	Field Team Communicator EFTC	Yes Relocated to EPIP	No	No	E-EFTC1 - Establish and maintain contact with the dispatched Field Monitoring Teams.	Reassign to EOF Dose Assessment Coordinator			EP-TMI-1000, Part II, Section B.5.b.12
278						E-EFTC2 - Document the Environmental Coordinator's instructions and then relay this information to the Field Monitoring Teams.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
279						E-EFTC3 - Document environmental data reported by the Field Monitoring Teams.	Reassign to EOF Dose Assessment Coordinator			
280						E-EFTC4 - Periodically obtain and document information on Field Monitoring Team radiological exposure.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
281						E-EFTC5 - Promptly report new environmental or Field Monitoring Team exposure data to the Dose Assessment Coordinator.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
282						E-EFTC6 - Document questions and answers directed to and received from the Field Monitoring Teams. Ensure the Dose Assessment Coordinator is cognizant of these information requests and relay replies to these requests.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		

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283	EOF	Dose Assessment Coordinator EDAC	No	Yes	No	E-EDAC1 - Interpret radiological data and provide PARs based upon dose projections to the EOF Radiation Protection Manager.			E-EFTC1 - Establish and maintain contact with the dispatched Field Monitoring Teams.	EP-TMI-1000, Part II, Section B.5.b.13
284						E-EDAC2 - Advise the EOF Radiation Protection Manager of changes in event classification based on effluent releases or dose projections.			E-EFTC3 - Document environmental data reported by the Field Monitoring Teams.	
285						E-EDAC3 - • Initiate evaluation of the need for administering KI to Exelon nuclear workers when requested by the Environmental Coordinator.	Modify	The Enviornmental Coordinator positon is removed from the SEP and is managed and controlled via EPIPs, since it no longer performs any direct tasks to support Emergency Planning functions.	E-EENVC2 - Ensure communications are established with the TSC to obtain information on the accident conditions, meteorological conditions and estimates of radioactive material releases.	
286						E-EDAC4 - Remain cognizant of forecast and meteorological data and ensure the status is updated periodically.			E-EENVC3 - Maintain cognizance of Field Monitoring Team exposure. When warranted, ask the Dose Assessment Coordinator to initiate an evaluation of the need for administering KI to Exelon nuclear workers.	
287						E-EDAC5 - Notify the EOF Radiation Protection Manager of meteorological changes that may impact identification of downwind areas.			E-EDA1 - Perform dose projections using the Dose Assessment computer models as directed by the Dose Assessment Coordinator.	
288						E-EDAC6 - Upon request, provide release and dose assessment data to Emergency Public Information personnel and the HPN Communicator.	Modify	The HPN Communicator positon is removed from the SEP and is managed and controlled via EPIPs, since it no longer performs any direct tasks to support Emergency Planning functions.	E-EDA2 - Monitor meteorological and plant effluent conditions.	
289									E-EDA4 - Evaluate the need for administering KI to Exelon nuclear workers.	
290	EOF	Dose Assessor EDA	Yes Relocated to EPIP	No	No	E-EDA1 - Perform dose projections using the Dose Assessment computer models as directed by the Dose Assessment Coordinator.	Reassign to EOF Dose Assessment Coordinator			EP-TMI-1000, Part II, Section B.5.b.14
291						E-EDA2 - Monitor meteorological and plant effluent conditions.	Reassign to EOF Dose Assessment Coordinator			
292						E-EDA3 - Notify the Dose Assessment Coordinator of meteorological changes that may impact identification of downwind areas.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
293						E-EDA4 - Evaluate the need for administering KI to Exelon nuclear workers when requested by the Dose Assessment Coordinator	Reassign to EOF Dose Assessment Coordinator			

THREE MILE ISLAND ERO STAFFING ASSESSMENT MATRIX

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1	Facility	Current ERO Position	Position Eliminated	Min Staff	NRC PI Key ERO	Tasks defined by Station Emergency Plan ('E-' are E plan and 'P-' are procedure tasks)	Task Disposition (Eliminated/ Reassigned To)	Justification / Implementing action	Tasks transferred to this position per this Assessment	E-Plan Section Reference
294	EOF	HPN Communicator EHPN	Yes Relocated to EPIP	Yes	No	E-EHPN1 - Provide updates and respond to inquiries from the NRC on offsite environmental data, release status, dose projections and changes to PARs for the general public.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.b.15
295						E-EHPN2 - Obtain release and dose assessment data and Field Monitoring Team data from the Dose Assessment Coordinator.	Eliminate			
296						E-EHPN3 - Maintain continuous communications with the NRC, if requested, via the NRC HPN phone or commercial telephone line.	Eliminate			
297						E-EHPN4 - Communicate current Health Physics information to NRC representatives, as requested.	Eliminate			
298	EOF	Logistics Manager ELM	Yes Relocated to EPIP	Yes	No	E-ELM1 - Ensure contact is made and communications are maintained with appropriate Non-Exelon Nuclear personnel whose assistance may be required to terminate the emergency conditions and to expedite the recovery.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.b.16
299						E-ELM2 - Advise the EOF Director concerning the status of activities relating to governmental interfaces.	Eliminate			
300						E-ELM3 - Obtain support from Human Resources, the Comptroller's Office, the Legal Department, Accounting Department and others as required.	Eliminate			
301						E-ELM4 - Coordinate with the Nuclear Duty Officer to maintain communications with ANI.	Eliminate			
302						E-ELM5 - Ensure that access to the EOF is limited to Emergency Responders and authorize admittance to non-Exelon personnel.	Eliminate			
303						E-ELM6 - Implement the Exelon Nuclear Fitness for Duty Program.	Eliminate			
304						E-ELM7 - Ensure that NRC Site Team Representatives are directed to the Regulatory Liaison upon arrival at the EOF.	Eliminate			
305						E-ELM8 - Ensure that updates and information are provided to offsite officials present in the EOF.	Eliminate			
306						E-ELM9 - Assist in obtaining and coordinating additional equipment/materials and /or technical expertise to support station requests, including Exelon Corporate staff, unaffected stations and vendor/contractors.	Eliminate			
307						E-ELM10 - Coordinate maintenance of EOF equipment as necessary.	Eliminate			
308						E-ELM11 - Ensure shift relief and continual staffing for the EOF.	Eliminate			
309	EOF	Administrative Coordinator EAC	Yes Relocated to EPIP	No	No	E-EAC1 - Direct the activities of Computer Specialist.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.b.17
310						E-EAC2- Direct the clerical staff and ensure the clerical requirements for the other EOF and JIC staff are met.	Eliminate			
311						E-EAC3 - Obtain clerical support for the EOF and JIC.	Eliminate			
312						E-EAC4 - Coordinate shift relief and continual staffing for the EOF.	Eliminate			
313						E-EAC5 - Obtain services as appropriate to support operation of the EOF.	Eliminate			
314	EOF	Computer Specialist ECOMPS	No	No	No	E- ECOMPS1 - Assist any personnel in logging in, initializing or using a desired computer program.				EP-TMI-1000, Part II, Section B.5.b.18
315						E- ECOMPS2 - Investigate and repair problems encountered with communications equipment and computer equipment/applications.				
316	EOF	Security Coordinator ESCOOR	Yes Relocated to EPIP	No	No	E-ESCOOR1 - Provide and interpret information on security events.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.b.19
317						E-ESCOOR2 - Assist with access control activities at the EOF and JIC.	Eliminate			
318						E-ESCOOR3 - Perform the following in support of the TSC Security Coordinator: provide assistance in resolving security events; assist as a liaison for local, state and federal law enforcement agencies during security related events; and serve as the primary contact to the security force for additional support, if necessary, during a security event.	Eliminate			
319						E-ESCOOR4 - Obtain additional resources to support access control measures needed at the EOF and JIC.	Eliminate			

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320	EOF	EOF State/Local Communicator ESL	No	Yes	No	E-ESL1 - Communicate and receive information via the Nuclear Accident Reporting System (NARS) circuit or commercial telephone line with appropriate state and county agencies.			E-EOD5 - Prepare state/local notification forms with the assistance of the EOF Radiation Protection Manager and the Technical Support Manager.	EP-TMI-1000, Part II, Section B.5.b.20
321						E-ESL2 - Ensure that the Logistics Manager Corporate Emergency Director is made aware of issues and questions raised by offsite agencies and then relay the replies to these requests.	Modify	The S&L Communicator now reports directly to the Corporate Emergency Director, who will direct responses to the off-site agencies.		
322										
323										
324										
325										
326										
327	EOF	EOC Communicator EEOCC	Yes Relocated to EPIP	No	No	E-EOCC1 - Coordinate and dispatch EOC Liaisons as needed or requested.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.b.21
328						E-EOCC2 - Establish and maintain periodic contact with each location where Exelon Nuclear EOC Liaisons have been dispatched.	Eliminate			
329						E-EOCC3 - Ensure EOC Liaisons are provided event information and notifications	Eliminate			
330						E-EOCC4 - Ensure that the Logistics Manager is made aware of issues and questions raised by offsite agencies and then relay the replies to these requests.	Eliminate			
331	EOF	County EOC Liaison ECEOCL	Yes Relocated to EPIP	No	No	E-CEOCL1 - Monitor and report County EOC activities to the EOF	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.b.22
332						E-CEOCL2 - Conduct briefings and answer questions.	Eliminate			
333						E-CEOCL3 - Provide simplified explanations to EOC personnel of technical details distributed through approved channels.	Eliminate			
334						E-CEOCL4 - Assist with confirmation/verification of information distributed through approved channels.	Eliminate			
335						E-CEOCL5 - Provide media at the EOC with approved Exelon Nuclear press releases.	Eliminate			
336						ECEOCL6 - Assist Emergency Public Information personnel in rumor control and media monitoring.	Eliminate			
337	EOF	State EOC Liaison ESEOCL	Yes Relocated to EPIP	No	No	E-SEOCL1 - Monitor and report state EOC activities to the EOF.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.b.23
338						E-SEOCL2 - Conduct briefings and answer questions as requested.	Eliminate			
339						E-SEOCL3 - Assist Emergency Public Information personnel in rumor control and media monitoring.	Eliminate			
340	EOF	Regulatory Liaison ERL	Yes Relocated to EPIP	No	No	E-ERL1 - Coordinate interfaces between Exelon Nuclear personnel and governmental agencies within the EOF.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.b.24
341						E-ERL2 - Obtain necessary equipment and supplies to support activities of governmental agencies located in the EOF.	Eliminate			
342						E-ERL3 - Act as the Exelon Nuclear Liaison to the NRC Site Team representatives.	Eliminate			
343							Eliminate			
344	EOF	Clerical Support	Yes	No	No	No Specific E Plan Function				

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345	JIC	Corporate Spokesperson JCSP	No	Yes	No	E-JCSP1 - Maintain command and control of the Joint Information Center.			E-JTSP03 - Prepare briefing papers which contain additional detail and background not found in the news releases.	EP-TMI-1000, Part II, Section B.5.c.1
346						E-JCSP2 - Coordinate with Federal, state and local agencies, as well as with other organizations involved in the emergency response, to maintain factual consistency of information to be conveyed to the news media/public.			E-JTSP05 - Provide a follow-up explanation that corrects misinformation as soon as practicable.	
347						E-JCSP3 - Conduct periodic briefings with the news media.				
348						E-JCSP4 - Interface with the Public Information Director.				
349						E-JCSP5 - Coordinate and direct responses to media inquiries.				
350						E-JCSP6 - Ensure that the composition and timeliness of Exelon News Releases are adequate.				
351						E-JCSP7 - Provide for timely exchange of information between other spokespersons.				
352	JIC	Technical Spokesperson JTSP0	Yes Relocated to EPIP	No	No	E-JTSP01 - Assist in development of technical and plant status information for use in news releases and media briefings.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.c.2
353						E-JTSP02 - Assist the Events Recorder in the preparation of a chronological event description log.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
354						E-JTSP03 - Prepare briefing papers which contain additional detail and background not found in the news releases.	Reassign to Corporate Spokesperson			
355						E-JTSP04 - Provide answers as soon as possible to media questions.	Eliminate	This task is performed by the Corporate Spokesperson (E-JCSP5)		
356						E-JTSP05 - Provide a follow-up explanation that corrects misinformation as soon as practicable.	Reassign to Corporate Spokesperson			
357	JIC	Radiation Protection Spokesperson JRSPO	Yes Relocated to EPIP	No	No	E-JRSPO1 - Assist in development of environmental and health physics information for use in news releases and media briefings.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.c.3
358						E-JRSPO2 - Assist the Events Recorder in the preparation of a chronological event description log.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
359						E-JRSPO3 - Prepare briefing papers which contain additional detail and background not found in the news releases.	Duplicate Task (E-JTSP03)			
360						E-JRSPO4 - Provide answers as soon as possible to media questions.	Eliminate	This task is performed by the Corporate Spokesperson (E-JCSP5)		
361						E-JRSPO5 - Provide a follow up explanation that corrects misinformation as soon as practicable.	Duplicate Task (E-JTSP05)			

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362	JIC	JIC Director JDIR	No	Yes	No	E-JDIR1 - Maintain cognizance of conditions of the plant and environment, and the actions of Exelon Nuclear and governmental support personnel.			E-JNW2 - Provide the drafted news releases to the Corporate Emergency Director for technical review prior to Public Information Director approval.	EP-TMI-1000, Part II, Section B.5.c.4
363						E-JDIR2 - Coordinate with Federal, state and local agencies, as well as with other organizations involved in the emergency response, to maintain factual consistency of information to be conveyed to the news media/public.				
364						E-JDIR3 - Participate, as needed, in rumor control activities.				
365						E-JDIR4 - Ensure that adequate information flow between the EOF and the JIC is coordinated.				
366						E-JDIR5 - Authorize admittance of non-Exelon Nuclear officials to the JIC.				
367	JIC	JIC Coordinator JCOOR	Yes Relocated to EPIP	No	No	E-JCOOR1 - Ensure the JIC is activated and operational. This includes the availability of communications and visual aids.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.c.5
368						E-JCOOR2 - Ensure that access to the JIC areas occupied by Exelon personnel is controlled.	Eliminate			
369						E-JCOOR3 - Establish a minimum frequency for addressing news media/public representatives and ensure that some form of communication occurs within that time frame (i.e., an update at least hourly.)	Eliminate			
370						E-JCOOR4 - Ensure that approved News Releases and Chronological Event Description Logs are made available in the JIC.	Eliminate			
371						E-JCOOR5 - Document unanswered questions and serious public misinformation issues. Follow-up on these questions and issues to ensure that they are being adequately addressed.	Eliminate			
372						E-JCOOR6 - Coordinate the interface between Exelon Nuclear and the news media/public, including, as necessary, briefings, news conferences, interviews and responses to information requests.	Eliminate			
373	JIC	Administrative Coordinator JADMC	Yes Relocated to EPIP	No	No	E-JADMC1 - Coordinate with the EOF Administrative Coordinator to ensure the clerical requirements for the other JIC staff are met.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.c.7
374						E-JADMC2 - Coordinate shift relief and continual staffing for the JIC.	Eliminate			
375						E-JADMC3 - Obtain services as appropriate to support operation of the JIC.	Eliminate			
376	JIC	Asscess Controller JACON	Yes Relocated to EPIP	No	No	E-JACON1 - The Access Controller reports to the JIC Director and is responsible for controlling facility access and obtaining authorization prior to admitting non-Exelon Nuclear officials into the JIC.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.c.8
377	JIC	Public Information Director JPID	No	Yes	No	E-JPID1 - Provide the Corporate Emergency Director with an overview of the public and media impacts resulting from the Exelon Nuclear and governmental activities.			E-JNW1 - Compose draft news releases with assistance from the JIC Director.	EP-TMI-1000, Part II, Section B.5.c.9
378						E-JPID2 - Participate with the Corporate Emergency Director regarding information to be released to the public.			E-JRCS1 - Ensure that rumors are reviewed, documented and responded to by Exelon Nuclear personnel as deemed appropriate.	
379						E-JPID3 - Authorize the issuance of news releases.			E-JRCS2 - Until the JIC is fully activated, document and respond to rumors as quickly as possible, through the Exelon Communications and Public Affairs.	
380						E-JPID4 - Interface with the Corporate Spokesperson at the JIC.			E-JMMS1 - Ensure that the media is being monitored and that Exelon Nuclear personnel review the information detailed or contained in media releases	
381						E-JPID5 - Act as a liaison between the ERO and Exelon Nuclear's corporate executives.				
382						E-JPID6 - Maintain cognizance of conditions of the plant and environment, and the actions of Exelon Nuclear and governmental support personnel.				
383						E-JPID7 - Coordinate information flow between the EOF and the JIC.				

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384						E-JPID8 - Coordinate with the Media Monitor / rumor control to rReview and access media coverage of the emergency event.	Modify			
385	JIC	News Writer JNW	Yes Relocated to EPIP	No	No	E-JNW1 - Compose draft news releases with assistance from the Technical Spokesperson and the Radiation Protection Spokesperson.	Reassign to Public Information Director.			EP-TMI-1000, Part II, Section B.5.c.10
386						E-JNW2 - Provide the drafted news releases to the Corporate Emergency Director for technical review prior to Public Information Director approval.	Reassign to JIC Director			

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387	JIC	Events Recorder JEREC	Yes Relocated to EPIP	No	No	E-JEREC1 - Develop a chronological event description log.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		EP-TMI-1000, Part II, Section B.5.c.11
388	JIC	Rumor Control Staff JRCS	Yes Relocated to EPIP	No	No	E-JRCS1 - Ensure that rumors are reviewed, documented and responded to by Exelon Nuclear personnel as deemed appropriate.	Reassign to Public Information Director.			EP-TMI-1000, Part II, Section B.5.c.13
389						E-JRCS2 - Until the JIC is fully activated, document and respond to rumors as quickly as possible, through the Exelon Communications and Public Affairs.	Reassign to Public Information Director.			
390						E-JRCS3 - Inform the Media Monitor when rumors representing serious misinformation are encountered.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
391	JIC	Media Monitoring Staff JMMS	Yes Relocated to EPIP	No	No	E-JMMS1 - Ensure that the media is being monitored and that Exelon Nuclear personnel review the information detailed or contained in media releases	Reassign to Public Information Director.			EP-TMI-1000, Part II, Section B.5.c.12
392						E-JMMS2 - Inform the Public Information Director of all media reports and of actions taken to correct any misinformation or rumors.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
393						E-JMMS3 - Direct the activities of the Rumor Control Staff with respect to the function of monitoring rumors from sources other than the media.	Eliminate	Support activity, not required for performance of Emergency Planning Functions. Position is removed from SEP, and is managed and controlled by EPIPs.		
394	JIC	Clerical Support JCS	Yes	No	No	No Specific E Plan tasks				
395	JIC	Facility Support Staff JFSS	Yes	No	No	No Specific E Plan tasks.				

Attachment 5

**Three Mile Island Nuclear Station
Summary of Regulatory Commitments**

Summary of Regulatory Commitments

The following table identifies commitments made in this document. (Any other actions discussed in the submittal represent intended or planned actions. They are described to the NRC for the NRC's information and are not regulatory commitments.)

Commitment	Committed Date or "Outage"	Commitment Type	
		One-Time Action (Yes/No)	Programmatic (Yes/No)
TMI will perform a drill to confirm the ability of the post-shutdown ERO to perform the necessary functions of each emergency response facility and to utilize the post-shutdown procedures being developed depicting the revised assignment of duties. State and local response organizations will be offered the opportunity to participate, and the NRC and FEMA will be provided advance notice and the opportunity to observe drill activities. In addition, other training drills will be conducted to train post-shutdown station ERO members.	Prior to implementation of the Post-Shutdown Emergency Plan.	Yes	No

Attachment 6

Three Mile Island Nuclear Station

Correspondence with
State of Pennsylvania

From: [Brady, Robert R:\(GenCo-Nuc\)](#)
To: [Bonnett, Frederick Paul:\(GenCo-Nuc\)](#)
Subject: FW: PA BRP Review- LAR for Post Shutdown Emergency Plan
Date: Thursday, March 08, 2018 11:14:23 AM
Attachments: [image001.png](#)

State Review email.

From: Martin, Sandra L:(Contractor - GenCo-Nuc)
Sent: Thursday, March 08, 2018 11:10 AM
To: Brady, Robert R:(GenCo-Nuc) <Robert.Brady@exeloncorp.com>
Cc: Janati, Rich <rjanati@pa.gov>
Subject: PA BRP Review- LAR for Post Shutdown Emergency Plan

Bob,

A review of the proposed changes prior to the formal submission of the LAR for Post Shutdown Emergency Plan has been performed by the Commonwealth of Pennsylvania with no further comments at this time.

Should you require any further information, please contact me at the number shown below or Rich Janati, Division Chief, 717-787-2163, rjanati@pa.gov

Sandra L. Martin
Nuclear Safety Specialist
Three Mile Island Nuclear Station
PA Department of Environmental Protection
Bureau of Radiation Protection – Nuclear Safety Division
Cell: 717-215-4099
Site office: 717-948-8308

