

10 CFR 50, Appendix E

RS-03-184

September 19, 2003

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

Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457

Byron Station, Units 1 and 2
Facility Operating License Nos. NPF-37 and NPF-66
NRC Docket Nos. STN 50-454 and STN 50-455

Clinton Power Station, Unit 1
Facility Operating License NPF-62
NRC Docket Nos. STN 50-461

Dresden Nuclear Power Station, Units 2 and 3
Facility Operating License DPR-19 and DPR-25
NRC Docket Nos. 50-237 and 50-249

LaSalle County Station, Units 1 and 2
Facility Operating License NPF-11 and NPF-18
NRC Docket Nos. 50-373 and 50-374

Limerick Generating Station, Units 1 and 2
Facility Operating License Nos. NPF-39 and NPF-85
NRC Docket Nos. 50-352 and 50-353

Peach Bottom Atomic Power Station, Units 2 and 3
Facility Operating License Nos. DPR-44 and DPR-56
NRC Docket Nos. 50-277 and 50-278

Quad Cities Nuclear Power Station, Units 1 and 2
Facility Operating License DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

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

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**Subject: Revisions to the Exelon Nuclear Standardized Radiological Emergency Plan
Implementing Procedure**

In accordance with 10 CFR 50, Appendix E, Section V, "Implementing Procedures," Exelon Generation Company, LLC (EGC) and AmerGen Energy Company (AmerGen) are submitting changes to the following Exelon procedures:

- EP-AA-111 "Emergency Classification and Protective Action Recommendations"
- EP-AA-115 "Termination and Recovery"

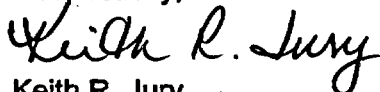
The procedure revisions incorporate enhancements to the usability and efficiency of the procedures in response to insights gained from their use in the Quad Cities Alert of April 16, 2003. Additionally, EP-AA-111 is revised to address the use of potassium iodide for events originating at the Limerick, Peach Bottom or Three Mile Island stations. These procedure changes were implemented on August 21, 2003, and are being submitted within 30 days of implementation.

Attachment A provides EP-AA-111, Revision 7, "Emergency Classification and Protective Action Recommendations."

Attachment B provides EP-AA-115, Revision 2, "Termination and Recovery."

Should you have any questions concerning this letter, please contact Mr. T.W. Simpkin at 630-657-2821.

Respectfully,



Keith R. Jury
Director – Licensing and Regulatory Affairs
Exelon Generation Company, LLC
AmerGen Energy Company, LLC

cc: Regional Administrator – NRC Region III (two copies)
Regional Administrator – NRC Region I (two copies)
NRC Senior Resident Inspector – Braidwood Station
NRC Senior Resident Inspector – Byron Station
NRC Senior Resident Inspector – Clinton Power Station
NRC Senior Resident Inspector – Dresden Nuclear Power Station
NRC Senior Resident Inspector – LaSalle County Station
NRC Senior Resident Inspector – Limerick Generating Station
NRC Senior Resident Inspector – Peach Bottom Atomic Power Station
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station
NRC Senior Resident Inspector – Three Mile Island, Unit 1

Attachment A - Exelon Nuclear Procedure, EP-AA-111, "Emergency Classification and Protective Action Recommendations"

Attachment B - Exelon Nuclear Procedure EP-AA-115, "Termination and Recovery"

ATTACHMENT A

**EP-AA-111, EMERGENCY CLASSIFICATION AND PROTECTIVE ACTION
RECOMMENDATIONS**

EMERGENCY CLASSIFICATION AND PROTECTIVE ACTION RECOMMENDATIONS

1. PURPOSE

- 1.1 This procedure provides guidance for the classification of an emergency condition.
- 1.2 This procedure provides guidelines for determining Protective Action Recommendations (PARs) to be made to offsite authorities during a General Emergency.
- 1.3 This procedure provides guidance for event termination and entry into Recovery.

Emergency Classification.....	REFER to Section 4.1
Transition to Recovery/Termination	REFER to Section 4.2
Plant Based PARs	REFER to Section 4.3
Dose Based PARs	REFER to Section 4.4
Overall PAR Determination.....	REFER to Section 4.5

2. TERMS AND DEFINITIONS

- 2.1 **Classification** – Emergency classifications are 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) associated with 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. The classifications are as follows:
 - 2.1.1 **Unusual Event** - Events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety occurs.
 - 2.1.2 **Alert** - events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the Environmental Protection Agency (EPA) Protective Action Guideline (PAG) exposure levels.

- 2.1.3 Site Area Emergency - Events are in progress or have occurred that involve actual or likely major failures of plant functions needed for protection of the public. Any releases are not expected to exceed EPA PAG exposure levels except near the site boundary.
- 2.1.4 General Emergency - Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA PAG exposure levels offsite for more than the immediate site area.
- 2.1.5 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.
- 2.2 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; a discrete, observable event; or another phenomenon which, if it occurs, indicates entry into a particular emergency class.
- 2.3 Emergency Director (ED) - the Director of the facility in Command and Control. One of the following: the Shift Emergency Director (CR), Station Emergency Director (TSC) or the Corporate Emergency Director (EOF).
- 2.4 EPA Protective Action Guideline - exposure levels determined by the Environmental Protection Agency for the evacuation of the offsite public following a release of radioactive materials. These levels have been established at one (1) Rem TEDE or five (5) Rem CDE Thyroid.
- 2.5 Imminent - mitigation actions have been ineffective and trended information indicates that the event or condition will occur within 2 hours.
- 2.6 Initiating Condition (IC) - one of a predetermined subset of nuclear power plant conditions where either the potential exists for a radiological emergency, or such an emergency has occurred.
- 2.7 Potential - mitigation actions are not effective and trended information indicates that the parameters are outside desirable bands and not stable or improving.
- 2.8 Protective Action Recommendations (PARs) - PARs are made by Exelon personnel whenever a General Emergency is declared. Additionally, if in the opinion of the Emergency Director, conditions warrant the issuance of PARs, a General Emergency will be declared (Exelon will not issue PARs for any accident classified below a General Emergency).

2.8.1 Offsite protective actions provided in response to a radioactive release include evacuation and taking shelter.

1. Evacuation is the preferred action unless external conditions impose a greater risk from the evacuation than from the dose received.
2. Exelon personnel do not have the necessary information to determine whether offsite conditions would require sheltering instead of an evacuation. Therefore, an effort to base PARs on external factors (such as road conditions, traffic/traffic control, weather or offsite emergency worker response) should not be attempted.

2.8.2 At a minimum, a plant-based PAR to evacuate a 2-mile radius and 5 miles downwind, is issued at the declaration of a General Emergency based on NUREG-0654, Rev.1 Supplement 3.

1. Depending on plant conditions (e.g., a **LOSS** of all three fission product barriers per the EALs), a PAR to evacuate a 5-mile radius and 10 miles downwind may be issued instead of the minimum PAR.

TMI

At a minimum, a plant-based PAR to evacuate a 5-mile radius is issued at the declaration of a General Emergency. Depending on plant conditions (e.g., a LOSS of <u>all</u> three fission product barriers per the EALs), a PAR to evacuate a 10-mile radius may be issued instead of the minimum PAR.
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2. The PAR must be provided to the State, and designated local agencies as applicable, within 15 minutes of (1) the classification of the General Emergency or (2) any change in recommended actions.
 3. The PAR must be provided to the NRC as soon as possible and within 60 minutes of (1) the classification of the General Emergency or (2) any change in recommended actions.
- 2.8.3 The Emergency Director may elect to specify PARs for any combinations of [MWROG] Subareas / [PB/LG] Sectors / [TMI] Radius or the entire EPZ (or beyond) regardless of plant and dose based guidance.
- 2.8.4 PARs should not be extended based on the results of dose projections unless the postulated release is likely to occur within a short period of time. Plant based PARs are inherently conservative such that expanding the evacuation zone as an added precaution would result in a greater risk from the evacuation than from the radiological consequences of a release. It also would dilute the effectiveness of the offsite resources used to accommodate the evacuation.

2.8.5 Protective actions taken in areas affected by plume deposition following the release are determined and controlled by offsite governmental agencies.

1. Exelon is not expected to develop offsite recommendations involving ingestion or relocation issues following plume passage.
2. Exelon may be requested to provide resources to support the determination of post plume protective actions.

3. **RESPONSIBILITIES**

- 3.1 The ***Shift Emergency Director (Shift Manager)***, when in Command and Control (C&C), has the non-delegable responsibility for classification of emergencies and final determination of PARs.
- 3.2 The ***Station Emergency Director***, when in Command and Control, has the non-delegable responsibility for classification of emergencies and final determination of PARs.
- 3.3 The ***Corporate Emergency Director***, when in Command and Control, has the non-delegable responsibility for final determination of PARs. Classification remains with the Station Emergency Director.
- 3.4 The ***TSC groups*** (e.g., Technical Support, Operations, Facility Support, RP/Chemistry) are responsible for monitoring and assessing conditions within their areas in support of classification.
- 3.5 The ***Shift Emergency Director (CR) / Technical Manager (TSC) or Technical Support Manager (EOF)***, in the facility with the Emergency Director having Command and Control, is responsible for evaluating the plant-based PARs from the PAR flowcharts.
- 3.6 The ***designated Shift Dose Assessor (CR) / Radiation Protection Manager (TSC) / Radiation Protection Manager (EOF)***, in the facility with the Emergency Director having Command and Control, is responsible for evaluating the dose-based PARs from the results of the dose assessment analyses and field team surveys/samples.

4. **MAIN BODY**

4.1 **Emergency Classification**

NOTE: Once indication of an abnormal condition is available, classification declaration must be made within 15 minutes. This time is available to ensure that the classification and subsequent actions associated with the classification, if warranted, are appropriate. It **does not** allow a delay of 15 minutes if the classification is recognized to be necessary. It is meant to provide sufficient time to accurately assess the emergency conditions and then evaluate the need for an emergency classification based on the assessment performed.

The decision to terminate the event or enter Recovery is **NOT** time dependent.

NOTE: If the event escalates to a higher classification before the notification can be made for an initial (or previous) declaration, the time requirements in the previous note restart and notification for the first classification is not made.

4.1.1 When an abnormal condition is being evaluated, **REFER** to the appropriate Station EAL Matrix and **PERFORM** the following:

1. **IDENTIFY** the Unit Mode for the state of the plant prior to the abnormal condition (Operating Modes are identified in respective EALs).
2. **REVIEW** the Initiating Conditions (ICs) applicable to the operating mode as follows.
 - A. Starting with the highest (General Emergency) classification level on the left side of the matrix and continue to the lowest (Unusual Event) classification level on the right side of the matrix.
 - B. If more than one IC applies to the event, then **SELECT** the highest IC (from all of the ICs that were determined to have been met).

NOTE: Classification is made on a Unit basis. For events affecting both Units, the highest classification on either Unit is used for notification.

3. **REVIEW** the EAL Threshold Values for the IC.

- A. If the EAL Threshold Values have been met or exceeded, then:
 - **NOTE** the EAL number associated with the IC.
 - **DECLARE** the event (by announcing it within the facility).
 - **RETURN** to the appropriate EP-AA-112 ERO position checklist and immediately begin notifications.
- B. If the EAL Threshold Values have not been met or exceeded, then return to the appropriate EP-AA-112 ERO position checklist.

4.2 Transition to Recovery/Termination

4.2.1 Complete the Termination/Recovery Checklist (Attachment 1).

1. If conditions will allow for the termination of the event or entry into Recovery, exit this procedure and enter EP-AA-115, "Termination and Recovery."
2. If conditions do not support termination of the event or entry into Recovery, continue following the guidance provided in Section 4.1.1.

4.3 Plant-Based Protective Action Recommendations (PARs)

4.3.1 Upon declaration of a General Emergency, **EVALUATE** the results of the plant-based PARs using the following attachments:

- Attachment 2, Braidwood Plant-Based PAR Flowchart
- Attachment 3, Byron Station Plant-Based PAR Flowchart
- Attachment 4, Dresden Station Plant-Based PAR Flowchart
- Attachment 5, LaSalle Station Plant-Based PAR Flowchart
- Attachment 6, Quad Cities Station Plant-Based PAR Flowchart
- Attachment 7, Clinton Station Plant-Based PAR Flowchart
- Attachment 8, Limerick/Peach Bottom Plant-Based PAR Flowchart
- Attachment 9, Three Mile Island Plant-Based PAR Flowchart

4.3.2 Continue to **EVALUATE** plant based PARs as Fission Product Barrier status or wind direction changes.

4.4 Dose Assessment Based Protective Action Recommendations (PARs)

NOTE: Dose projections are NOT required to support the decision process in the plant-based PAR Flowcharts. However, it is expected that a dose projection be performed *as soon as possible* at a General Emergency with a release in progress per EP-MW(MA)-110-200.

- For the Control Room, as soon as possible is determined by the Shift Emergency Director based on whether personnel are involved in immediate actions to recover the plant or fight the casualty.
- For the TSC and EOF, as soon as possible means within 15 minutes of a release occurring or the escalation of an event with a release in progress.
- If radiation monitor readings provide sufficient data for assessment, it is NOT appropriate to wait for field monitoring data to become available to confirm or expand a PAR within the 10-mile EPZ.

4.4.1 From the Control Room:

1. If a release is in progress at a General Emergency classification, and time permits, then **PERFORM** an offsite dose assessment using the "Quick Assessment" dose model option.

4.4.2 From the TSC or EOF:

1. **ENTER** current meteorological and core damage data (if available) for dose projections.
2. **PERFORM** dose projections, using the "Full Assessment" dose model option, to determine whether the plant-based protective actions are adequate using the following methods as applicable:

NOTE: Many assumptions exist in dose assessment calculations, involving both source term and meteorological factors, which make computer predictions over long distances highly questionable.

A. Monitored Release:

- If dose assessment results indicate the need to recommend actions beyond 10 miles, then **DISPATCH** Field Monitoring Teams to downwind areas to verify the calculated exposure rates prior to issuing PARs outside the 10 mile EPZ.
- If a release is in progress, then **ASSESS** the calculated impact to determine whether the plant based PARs are adequate.

NOTE: Re-establish threshold values whenever meteorological conditions or core damage assessment values change.

- If a release is not in progress, then **PROJECT** effluent monitor threshold values that would require 2, 5, and 10 mile evacuations.

B. Containment Leakage/Failure:

- If a release is in progress, then **ASSESS** the calculated impact to determine whether the plant based PARs are adequate.
- If a release is not in progress, then **ASSESS** various scenarios (design leakage, failure to isolate, catastrophic failure) to project the dose consequences and determine whether the plant based PARs are adequate.

- C. Field Survey Analysis: Actual field readings from Field Teams should be compared to dose assessment results and used as a dose projection method to validate calculated PARs and to determine whether the plant or dose based protective actions are adequate.
- D. Release Point Analysis: Actual sample data from monitored or unmonitored release points should be utilized in conjunction with other dose assessment and projection methods to validate calculated PARs and to determine whether the plant based protective actions are adequate.

4.5 Overall Protective Action Recommendations (PARs)

4.5.1 **EVALUATE** the results of the plant based PARs and determine which Areas/Subareas/Sectors are to be evacuated.

4.5.2 **IF** a release is in progress, **THEN**:

1. **EVALUATE** the results of the dose based PARs and determine if EPA Protective Action Guides (EPA PAGs) of 1 Rem TEDE or 5 Rem CDE Thyroid are exceeded and if additional Areas/Subareas/Sectors require evacuation.
2. **ADD** any Subarea/Sector/Area requiring evacuation as determined by dose assessment to the plant based PARs.

4.5.3 **If** no release is in progress, **then**:

1. **PERFORM** dose projections on possible conditions as time permits to determine if PAGs could be exceeded.
2. **CONSIDER** adding any Subareas/Sectors/Areas requiring evacuation as determined by dose projection to the plant based PARs.

4.5.4 **COMBINE** the results of the plant based and appropriate dose based PARs onto the State/Local notification form.

Limerick / Peach Bottom / TMI

1. **RECOMMEND** potassium iodide (KI) for the general public in affected areas where **EVACUATION** is recommended following the classification of a General Emergency.

4.5.5 **RETAIN** any copies of plant and/or dose based PAR reports (Attachments 1-9 or dose code printouts).

5. **DOCUMENTATION**

None

6. **REFERENCES**

None

7. **ATTACHMENTS**

Attachment 1, Termination/Recovery Checklist

Attachment 2, Braidwood Plant-Based PAR Flowchart

Attachment 3, Byron Plant-Based PAR Flowchart

Attachment 4, Dresden Plant-Based PAR Flowchart

Attachment 5, LaSalle Plant-Based PAR Flowchart

Attachment 6, Quad Cities Plant-Based PAR Flowchart

Attachment 7, Clinton Plant-Based PAR Flowchart

Attachment 8, Limerick/Peach Bottom Plant-Based PAR Flowchart

Attachment 9, Three Mile Island Plant-Based PAR Flowchart

ATTACHMENT 1
TERMINATION / RECOVERY CHECKLIST

Page 1 of 2

Station: _____ Event: _____

- | | <u>True</u> | <u>False</u> | <u>N/A</u> |
|--|--------------------------|--------------------------|--------------------------|
| 1. Conditions no longer meet an Emergency Action Level and it appears unlikely that conditions will deteriorate. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

List any EAL(s) which is/are still exceeded and a justification as to why a state of emergency is no longer applicable:

GO TO the comments/approval section for Unusual Events.

CONTINUE for Alert, Site Area and General Emergency classifications.

- | | | | |
|---|--------------------------|--------------------------|--------------------------|
| 2. All required state, local and NRC notifications for entry into the Recovery Phase have been prepared per EP-AA-114 and EP-MW(MA)-114-100. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Plant releases of radioactive materials to the environment are under control (within Tech Specs) or have ceased and the potential for a uncontrolled radioactive release is acceptably low. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. The radioactive plume has dissipated and plume tracking is no longer required. The only environmental assessment activities in progress are those necessary to determine the extent of deposition resulting from passage of the plume. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. In-plant radiation levels are stable or decreasing, and acceptable given the plant conditions. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. The reactor is in a stable shutdown condition and long-term core cooling is available. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

ATTACHMENT 1
TERMINATION / RECOVERY CHECKLIST

Page 2 of 2

	<u>True</u>	<u>False</u>	<u>N/A</u>	
7. The integrity of the Reactor Containment Building is within Technical Specification limits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. The operability and integrity of radioactive waste systems, decontamination facilities, power supplies, electrical equipment and plant instrumentation including radiation monitoring equipment is acceptable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. Any fire, flood, earthquake or similar emergency condition or threat to security no longer exists.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. Any contaminated injured person has been treated and/or transported to a medical care facility.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. Offsite conditions do not unreasonably limit access of outside support to the station and qualified personnel and support services are available.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. Discussions have been held with Federal, State and County agencies and agreement has been reached and coordination established to terminate the emergency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

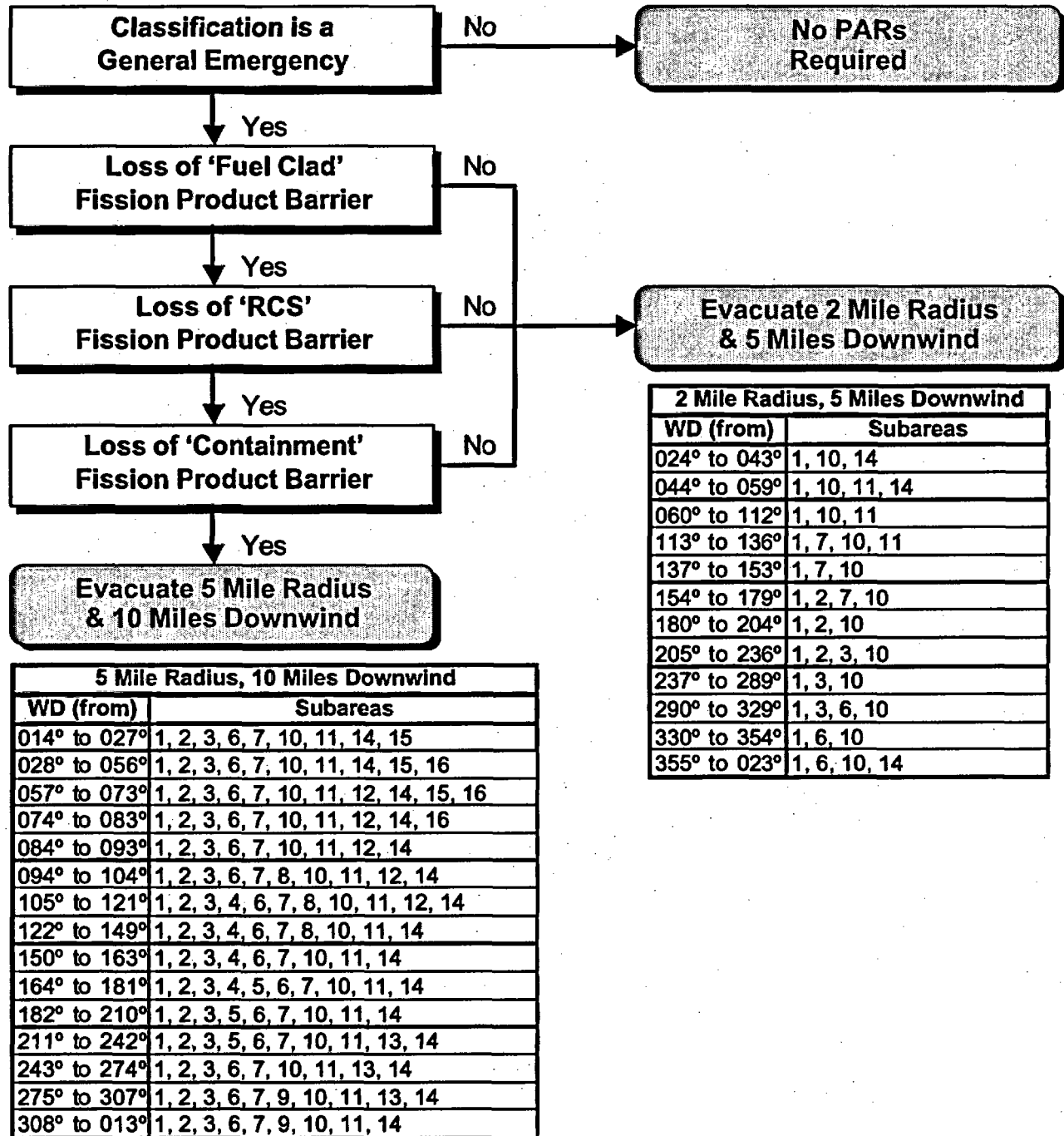
It is not necessary that all responses listed above be 'TRUE'; however, all items must be considered prior to event termination or entry into Recovery. For example, it is possible that some conditions remain which exceed an Emergency Action Level following a severe accident but entry into Recovery is appropriate. Additionally, other significant items not included on this list may warrant consideration such as severe weather.

Comments:

Approved: _____ Date/Time: _____
Emergency Director (in C&C of event classification)

ATTACHMENT 2
BRAIDWOOD PLANT-BASED PAR FLOWCHART

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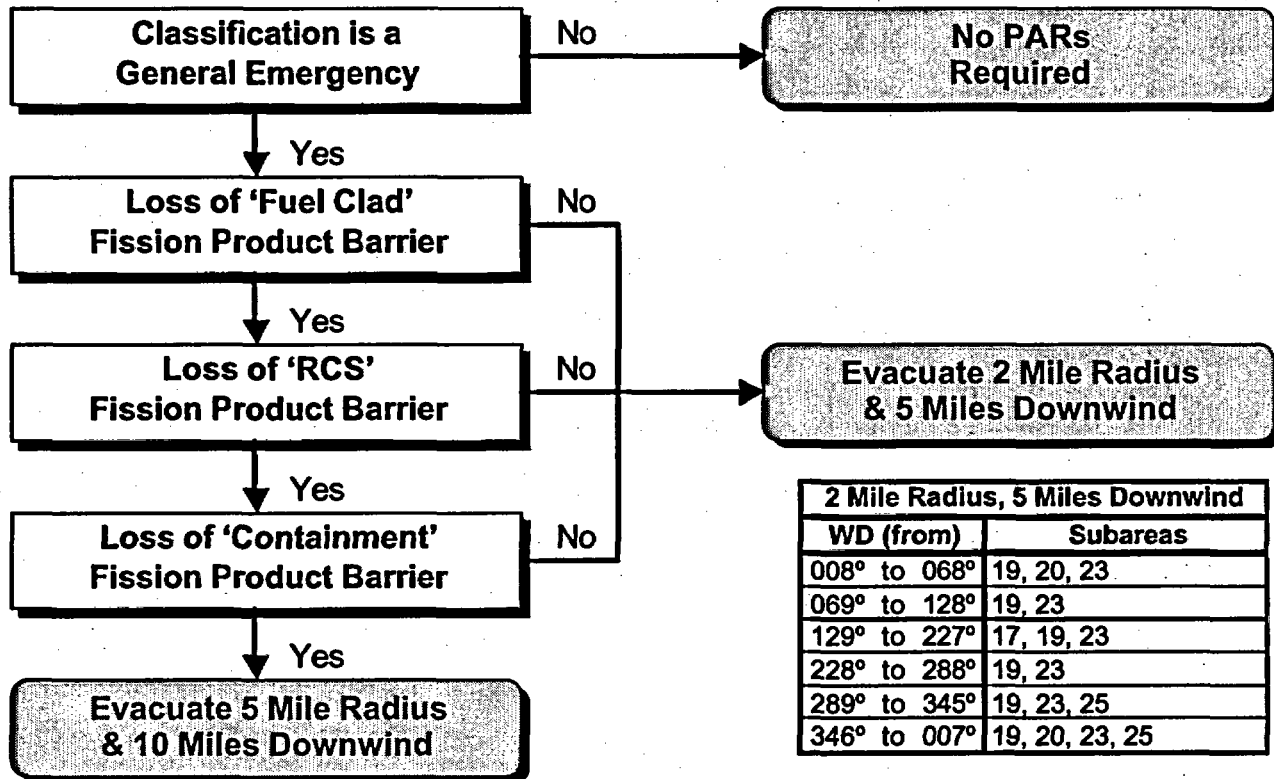
Date: _____

Time: _____

NOTE: Ensure dose based PARs are evaluated when a release is in progress.

ATTACHMENT 3
BYRON PLANT-BASED PAR FLOWCHART

Page 1 of 1



2 Mile Radius, 5 Miles Downwind	
WD (from)	Subareas
008° to 068°	19, 20, 23
069° to 128°	19, 23
129° to 227°	17, 19, 23
228° to 288°	19, 23
289° to 345°	19, 23, 25
346° to 007°	19, 20, 23, 25

5 Mile Radius, 10 Miles Downwind	
WD (from)	Subareas
022° to 051°	14, 17, 19, 20, 23, 25
052° to 082°	12, 14, 17, 19, 20, 23, 25
083° to 100°	12, 17, 19, 20, 23, 25
101° to 125°	10, 12, 17, 19, 20, 23, 25
126° to 139°	10, 17, 19, 20, 23, 25
140° to 171°	10, 17, 19, 20, 23, 25, 40
172° to 209°	17, 19, 20, 23, 25, 40
210° to 220°	17, 19, 20, 23, 25, 39, 40
221° to 252°	17, 19, 20, 23, 25, 27, 39
253° to 264°	17, 19, 20, 23, 25, 27
265° to 285°	17, 19, 20, 23, 25, 27, 28
286° to 326°	17, 19, 20, 23, 25, 28
327° to 021°	17, 19, 20, 23, 25

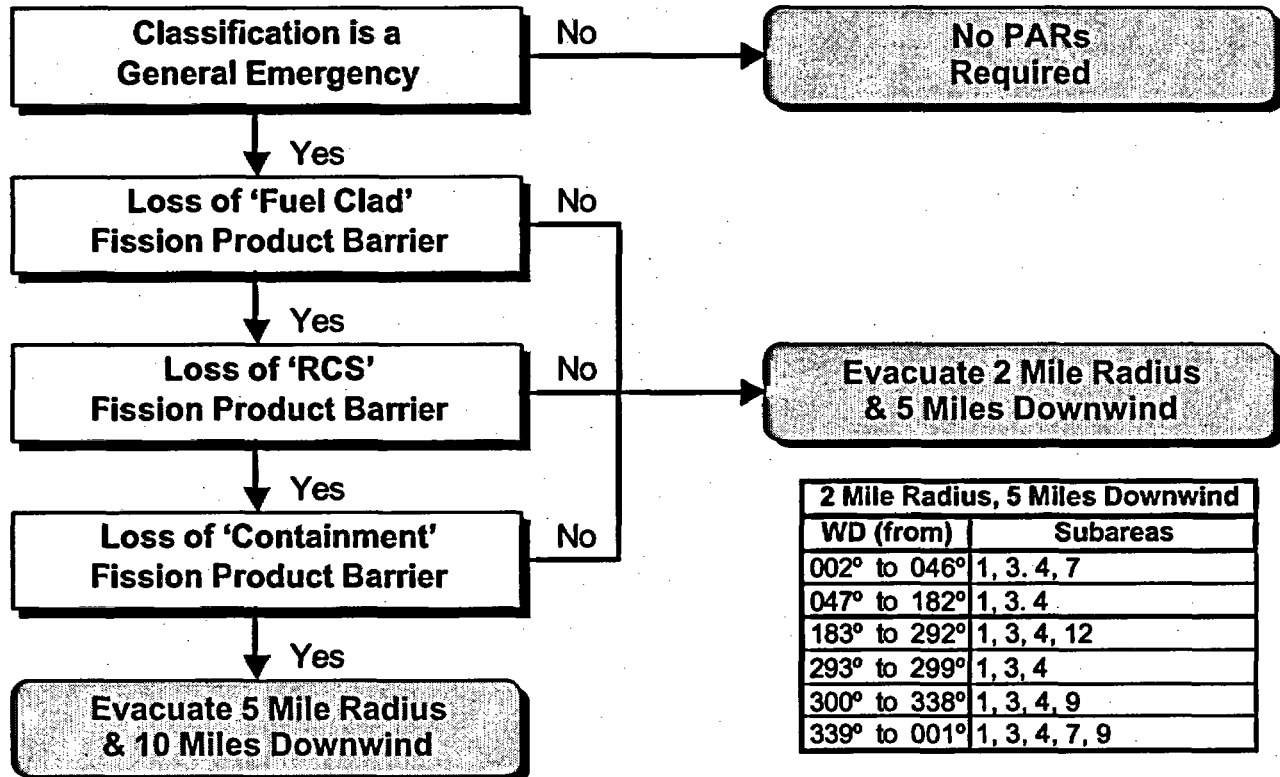
Date: _____

Time: _____

NOTE: Ensure dose based PARs are evaluated when a release is in progress.

ATTACHMENT 4
DRESDEN PLANT-BASED PAR FLOWCHART

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2 Mile Radius, 5 Miles Downwind	
WD (from)	Subareas
002° to 046°	1, 3, 4, 7
047° to 182°	1, 3, 4
183° to 292°	1, 3, 4, 12
293° to 299°	1, 3, 4
300° to 338°	1, 3, 4, 9
339° to 001°	1, 3, 4, 7, 9

5 Mile Radius, 10 Miles Downwind	
WD (from)	Subareas
002° to 026°	1, 3, 4, 7, 9, 10, 11, 12
027° to 044°	1, 3, 4, 7, 8, 9, 11, 12
045° to 068°	1, 3, 4, 7, 8, 9, 12
069° to 083°	1, 2, 3, 4, 5, 7, 8, 9, 12
084° to 092°	1, 2, 3, 4, 5, 7, 9, 12
093° to 112°	1, 2, 3, 4, 7, 9, 12
113° to 143°	1, 2, 3, 4, 6, 7, 9, 12
144° to 177°	1, 3, 4, 6, 7, 9, 12
178° to 199°	1, 3, 4, 6, 7, 9, 12, 13
200° to 225°	1, 3, 4, 7, 9, 12, 13
226° to 249°	1, 3, 4, 7, 9, 12, 13, 14
250° to 266°	1, 3, 4, 7, 9, 12, 14
267° to 286°	1, 3, 4, 7, 9, 12, 14, 15
287° to 321°	1, 3, 4, 7, 9, 12, 15
322° to 344°	1, 3, 4, 7, 9, 12, 15, 16
345° to 353°	1, 3, 4, 7, 9, 10, 12, 15, 16
354° to 001°	1, 3, 4, 7, 9, 10, 12, 16

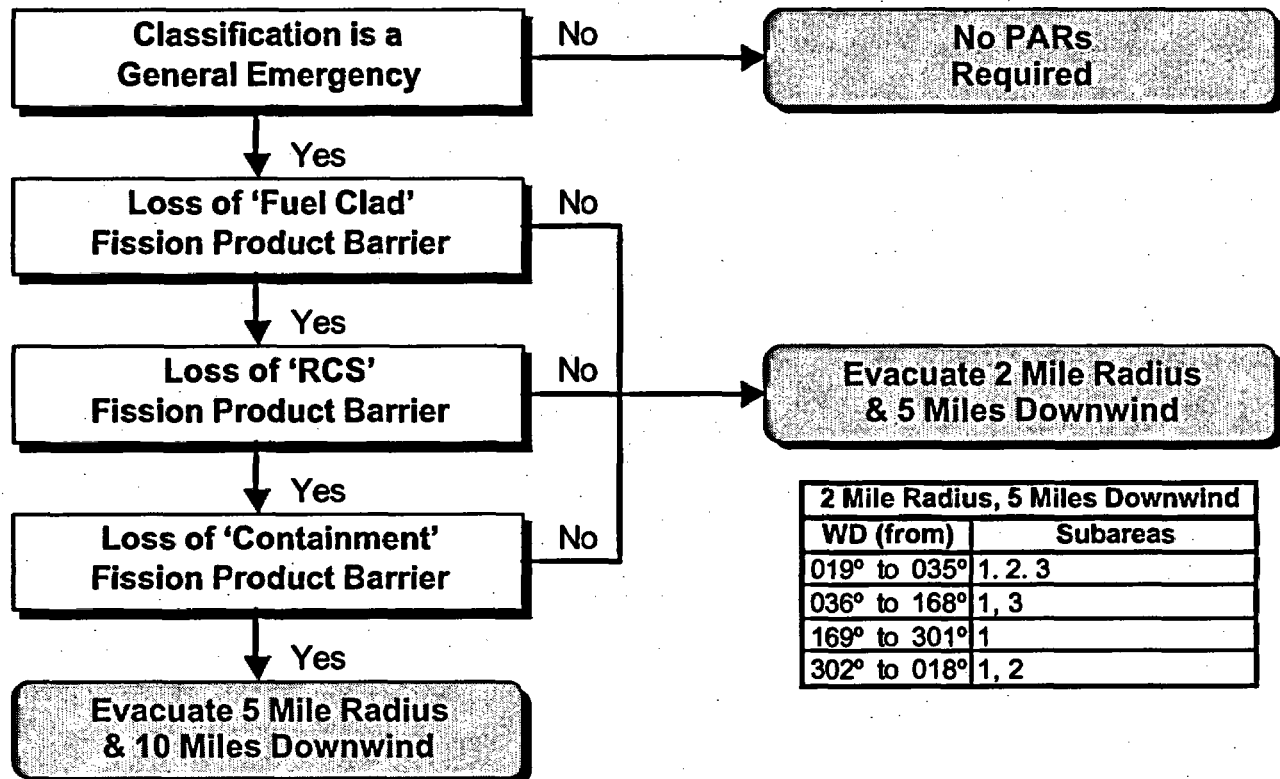
Date: _____

Time: _____

NOTE: Ensure dose based PARs are evaluated when a release is in progress.

ATTACHMENT 5
LASALLE PLANT-BASED PAR FLOWCHART

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2 Mile Radius, 5 Miles Downwind	
WD (from)	Subareas
019° to 035°	1, 2, 3
036° to 168°	1, 3
169° to 301°	1
302° to 018°	1, 2

5 Mile Radius, 10 Miles Downwind	
WD (from)	Subareas
002° to 026°	1, 2, 3, 4, 5
027° to 056°	1, 2, 3, 4
057° to 076°	1, 2, 3, 4, 7
077° to 096°	1, 2, 3, 7
097° to 116°	1, 2, 3, 7, 8
117° to 121°	1, 2, 3, 8
122° to 149°	1, 2, 3, 8, 11
150° to 178°	1, 2, 3, 10, 11
179° to 197°	1, 2, 3, 10
198° to 218°	1, 2, 3, 6, 10
219° to 233°	1, 2, 3, 6, 9, 10
234° to 242°	1, 2, 3, 6, 9, 13
243° to 265°	1, 2, 3, 9, 13
266° to 281°	1, 2, 3, 13
282° to 316°	1, 2, 3, 13, 17
317° to 342°	1, 2, 3, 5, 17
343° to 001°	1, 2, 3, 5

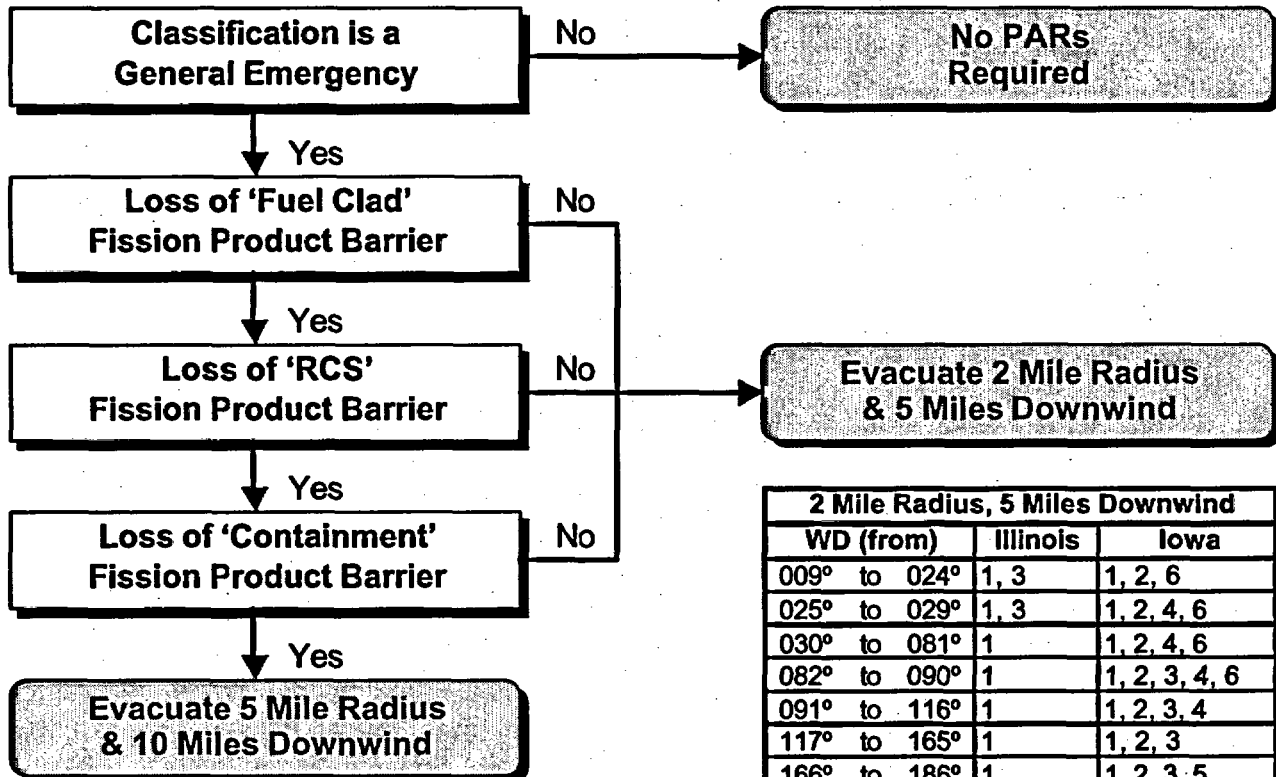
Date: _____

Time: _____

NOTE: Ensure dose based PARs are evaluated when a release is in progress.

ATTACHMENT 6
QUAD CITIES PLANT-BASED PAR FLOWCHART

Page 1 of 1



5 Mile Radius, 10 Miles Downwind		
WD (from)	Illinois	Iowa
002° to 025°	1, 2, 3, 6	1, 2, 3, 4, 5, 6, 12
026° to 031°	1, 2, 3	1, 2, 3, 4, 5, 6, 12
032° to 049°	1, 2, 3	1, 2, 3, 4, 5, 6, 10, 12
050° to 058°	1, 2, 3	1, 2, 3, 4, 5, 6, 8, 10, 12
059° to 075°	1, 2, 3	1, 2, 3, 4, 5, 6, 8, 10
076° to 087°	1, 2, 3	1, 2, 3, 4, 5, 6, 8
088° to 106°	1, 2, 3	1, 2, 3, 4, 5, 6, 7, 8
107° to 116°	1, 2, 3	1, 2, 3, 4, 5, 6, 7
117° to 146°	1, 2, 3	1, 2, 3, 4, 5, 6, 7, 9
147° to 169°	1, 2, 3	1, 2, 3, 4, 5, 6, 9
170° to 186°	1, 2, 3	1, 2, 3, 4, 5, 6, 9, 11
187° to 215°	1, 2, 3	1, 2, 3, 4, 5, 6, 11
216° to 229°	1, 2, 3, 4	1, 2, 3, 4, 5, 6, 11
230° to 239°	1, 2, 3, 4	1, 2, 3, 4, 5, 6
240° to 267°	1, 2, 3, 4, 5	1, 2, 3, 4, 5, 6
268° to 296°	1, 2, 3, 5	1, 2, 3, 4, 5, 6
297° to 318°	1, 2, 3, 5, 6	1, 2, 3, 4, 5, 6
319° to 001°	1, 2, 3, 6	1, 2, 3, 4, 5, 6

2 Mile Radius, 5 Miles Downwind		
WD (from)	Illinois	Iowa
009° to 024°	1, 3	1, 2, 6
025° to 029°	1, 3	1, 2, 4, 6
030° to 081°	1	1, 2, 4, 6
082° to 090°	1	1, 2, 3, 4, 6
091° to 116°	1	1, 2, 3, 4
117° to 165°	1	1, 2, 3
166° to 186°	1	1, 2, 3, 5
187° to 215°	1	1, 2, 5
216° to 240°	1, 2	1, 2, 5
241° to 289°	1, 2	1, 2
290° to 318°	1, 2, 3	1, 2
319° to 008°	1, 3	1, 2

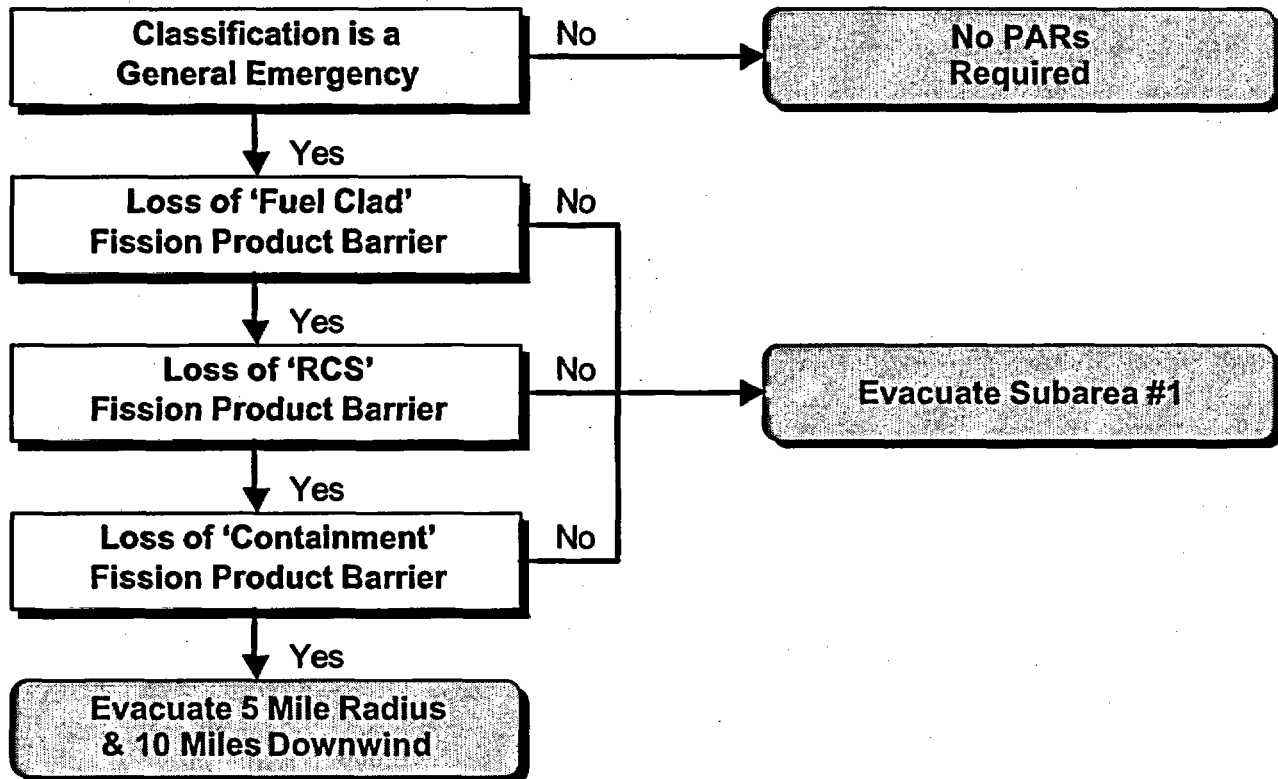
NOTE: Ensure dose based PARs are evaluated when a release is in progress.

Date: _____

Time: _____

ATTACHMENT 7
CLINTON PLANT-BASED PAR FLOWCHART

Page 1 of 1



5 Mile Radius, 10 Miles Downwind	
WD (from)	Subareas
021° to 048°	1, 5, 6
049° to 066°	1, 6
067° to 090°	1, 6, 7
091° to 094°	1, 7
095° to 132°	1, 7, 8
133° to 157°	1, 2, 8
158° to 196°	1, 2
197° to 228°	1, 2, 3
229° to 251°	1, 3
252° to 281°	1, 3, 4
282° to 308°	1, 4
309° to 338°	1, 4, 5
339° to 020°	1, 5

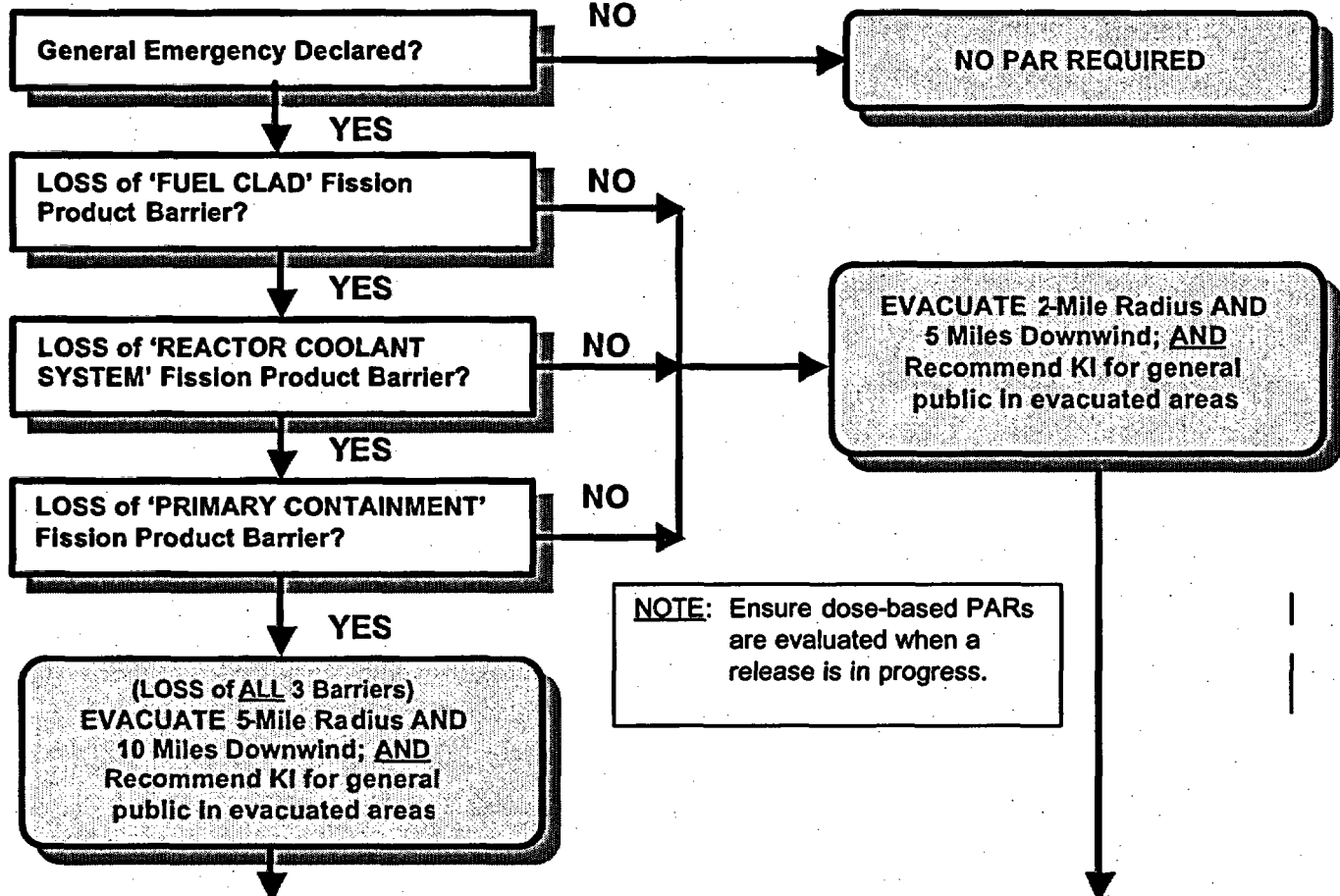
Date: _____

Time: _____

NOTE: Ensure dose based PARs are evaluated when a release is in progress.

LIMERICK/PEACH BOTTOM PLANT-BASED PAR FLOWCHART

Page 1 of 1

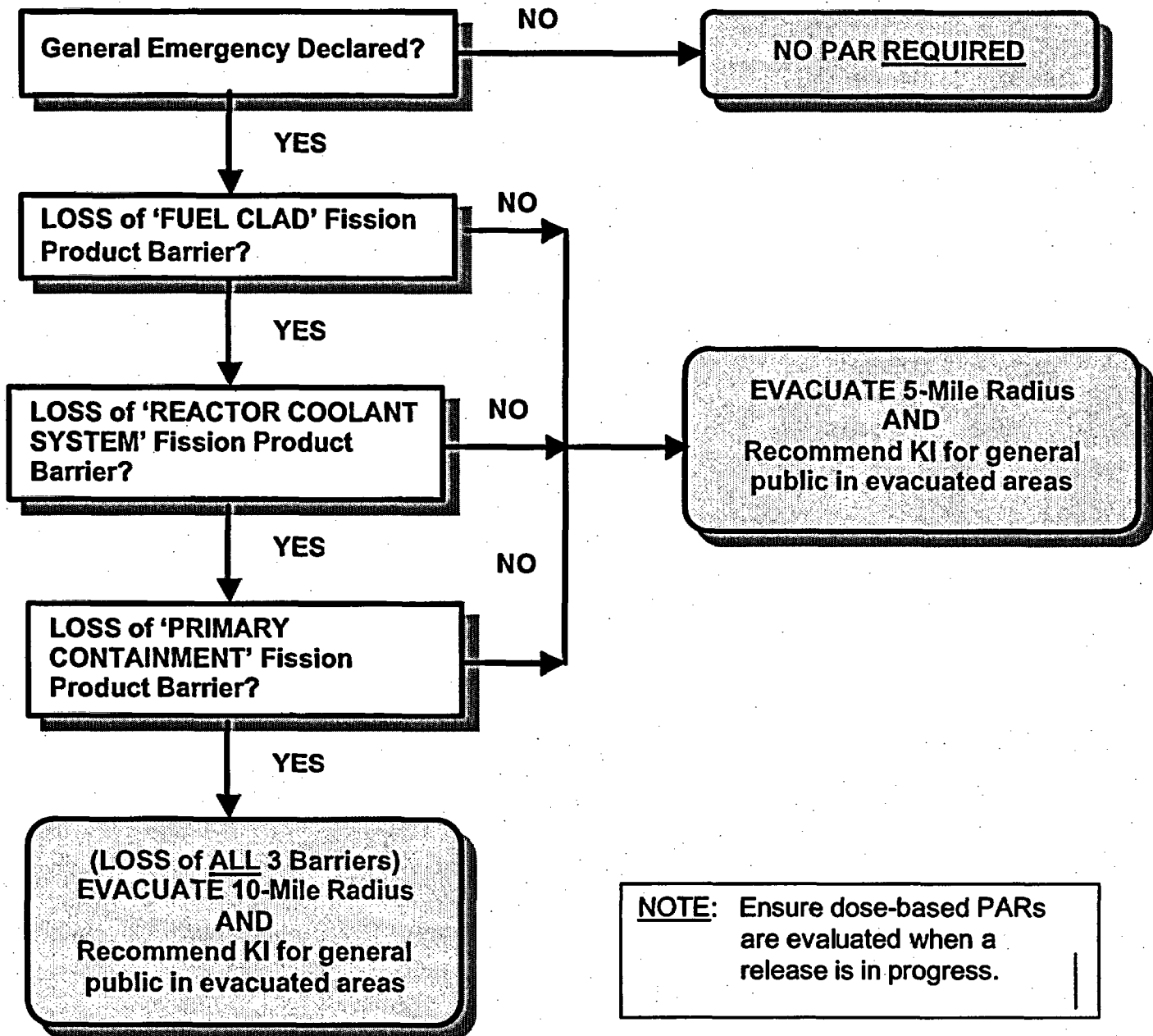


<u>WIND DIRECTION</u> <u>(FROM)</u>	<u>DOWNWIND</u> <u>SECTOR(S)*</u>	<u>WIND DIRECTION</u> <u>(FROM)</u>	<u>DOWNWIND</u> <u>SECTOR(S)*</u>
355 to 005	SSE / S / SSW	175 to 185	NNW / N / NNE
006 to 017	SSE / S / SSW / SW	186 to 197	NNW / N / NNE / NE
018 to 027	S / SSW / SW	198 to 207	N / NNE / NE
028 to 039	S / SSW / SW / WSW	208 to 219	N / NNE / NE / ENE
040 to 050	SSW / SW / WSW	220 to 230	NNE / NE / ENE
051 to 062	SSW / SW / WSW / W	231 to 242	NNE / NE / ENE / E
063 to 072	SW / WSW / W	243 to 252	NE / ENE / E
073 to 084	SW / WSW / W / WNW	253 to 264	NE / ENE / E / ESE
085 to 095	WSW / W / WNW	265 to 275	ENE / E / ESE
096 to 107	WSW / W / WNW / NW	276 to 287	ENE / E / ESE / SE
108 to 117	W / WNW / NW	288 to 297	E / ESE / SE
118 to 129	W / WNW / NW / NNW	298 to 309	E / ESE / SE / SSE
130 to 140	WNW / NW / NNW	310 to 320	ESE / SE / SSE
141 to 152	WNW / NW / NNW / N	321 to 332	ESE / SE / SSE / S
153 to 162	NW / NNW / N	333 to 342	SE / SSE / S
163 to 174	NW / NNW / N / NNE	343 to 354	SE / SSE / S / SSW

* **BOLD** refers to affected Sector(s). These sectors are based on dose model stability class "D", and in some cases, an extra sector was included for conservatism.

ATTACHMENT 9
THREE MILE ISLAND PLANT-BASED PAR FLOWCHART

Page 1 of 1



ATTACHMENT B

EP-AA-115, TERMINATION AND RECOVERY

TERMINATION AND RECOVERY

1. **PURPOSE**

- 1.1 This procedure provides guidance to the Station and Corporate Emergency Directors to accomplish transition to the Recovery Phase of an event and performance of activities associated with returning the station to a Forced Outage Management or normal organization.

Transitioning out of a Declared Event	REFER to section 4.1
Termination Directly from a Declared Event	REFER to section 4.2
Preparations to Enter Recovery	REFER to section 4.3
Entering Recovery from a Declared Event	REFER to section 4.4
Recovery Phase Actions	REFER to section 4.5
Termination from Recovery	REFER to section 4.6

2. **TERMS AND DEFINITIONS**

- 2.1 **ANI** – American Nuclear Insurers
- 2.2 **INPO** – Institute of Nuclear Power Operations
- 2.3 **NEI** – Nuclear Energy Institute
- 2.4 **Recovery Phase** - 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.
- 2.5 **Detailed Incident Report** - A written report that summarizes the facts and assigns corrective actions. The report includes the facts of the emergency, describes the root cause(s) of any emergency response problems and recommends corrective actions.
- 2.6 **Event Summary Report** - A written report summarizing the incident prepared for delivery to offsite authorities. This report is required within 24 hours of terminating an Unusual Event and within 8 hours of exiting any higher event.

- 2.7 **Termination** - The point at which the Emergency Plan is deactivated and station operations are controlled under the normal organization, processes and procedures. Unusual Event classifications are directly terminated. Alert classification can be directly terminated or transitioned to Recovery. Site Area and General Emergency classifications must transition to Recovery prior to termination. Termination of the emergency is formally performed per EP-AA-111 with Notifications performed per EP-AA-114.

3. **RESPONSIBILITIES**

- 3.1 The Corporate Emergency Director is responsible for assignment of personnel for the Recovery Organization.

A typical Corporate Recovery Organization includes:

- 3.1.1 Recovery Director – Reports to the Chief Nuclear Officer and responsible for recovery planning and overall Exelon activities in coordination with the affected State(s).
- 3.1.2 Recovery Offsite Manager – Reports to the Recovery Director and is responsible for operation of the offsite facilities, communications, interface with purchasing, legal and insurance representatives.
- 3.1.3 Recovery Technical Support Manager – Reports to the Recovery Offsite Manager and is responsible for recovery planning and providing corporate technical and engineering support to the station.
- 3.1.4 Recovery Offsite RP Manager – Reports to the Recovery Offsite Manager and is responsible for environmental monitoring and providing corporate radiological support to the station.
- 3.1.5 Company Spokesperson - Reports to the Recovery Director and is responsible for media and public information and interfaces.

- 3.2 The Station Emergency Director is responsible for assignment of personnel for the Recovery Organization.

A typical Station Recovery Organization includes:

- 3.2.1 Recovery Plant Manager - Reports to the Recovery Director and is responsible for station recovery planning and overall station activities and communications.
- 3.2.2 Recovery Operations Manager – Reports to the Recovery Plant Manager and is responsible for recovery planning, plant operations and system manipulations through the Control Room.

- 3.2.3 Recovery Engineering Manager – Reports to the Recovery Plant Manager and is responsible for recovery planning and technical and engineering support.
- 3.2.4 Recovery Maintenance Manager – Reports to the Recovery Plant Manager and is responsible for plant maintenance and repair activities.
- 3.2.5 Recovery Onsite RP Manager – Reports to the Recovery Plant Manager and is responsible for all radiological aspects supporting maintenance, operations and Rad Waste processing.

4. **MAIN BODY**

4.1 **Transitioning out of a Declared Event**

NOTE: Termination or transition to the Recovery Phase cannot be accomplished until the criteria of EP-AA-111, Attachment 1, Termination/Recovery Checklist have been evaluated. It is the responsibility of the Station Emergency Director, in consultation with the Corporate Emergency Director, to terminate the event or enter into Recovery.

- 4.1.1 **REVIEW** the criteria of EP-AA-111, Attachment 1, Termination/Recovery Checklist.
- 4.1.2 **QUARANTINE** or restrict access to any equipment, facilities or systems that may provide insight into the cause(s) of the event. (Refer to OP-AA-106-101-1005r0 Quarantine of Areas, Equipment, and Records as needed.)
- 4.1.3 **ENSURE** any reportable event(s) is/are assigned to be reported per the Reportability Manual.
- 4.1.4 **ENSURE** that an investigation is initiated in accordance with LS-AA-125, "Corrective Action Program (CAP) Procedure."
- 4.1.5 **ASSIGN** the Station EP Manager or designee to begin event documentation in accordance with EP-AA-120, Attachment 5, "Review of Actual Emergency Events."
- 4.1.6 **TERMINATE** the event or **TRANSITION** into the Recovery Phase based on the following:
 - 1. **PROCEED** to Section 4.2 if terminating following an
 - Unusual Event or

- Alert with no need for recovery phase actions as determined through review of completed EP-AA-111, Attachment 1, Termination/Recovery Checklist.

2. **PROCEED** to Sections 4.3 through 4.5 if transitioning to Recovery following an Alert (requiring recovery phase actions), Site Area, or General Emergency.

4.2 Termination Directly from a Declared Event

4.2.1 **DECLARE** and log the official time the event is terminated.

4.2.2 **DIRECT** the announcement of the following message (or similar message) to station personnel over the public address system:

"Attention all personnel, attention all personnel. The emergency has been terminated. I repeat, the emergency has been terminated."

4.2.3 **NOTIFY** ERO personnel and the NDO of the event termination.

4.2.4 **INITIATE** a State/Local notification within one hour of event termination per EP-MA(MW)-114-100.

4.2.5 **INITIATE** an ENS notification within one hour of event termination per EP-AA-114.

4.2.6 **ISSUE** an Event Summary Report to offsite authority, using Attachment 8 as a guide, as follows:

- For an Unusual Event, the Event Summary Report must be transmitted within 24 hours of termination.
- For an Alert, the Event Summary Report must be transmitted within 8 hours of termination.

4.2.7 **DEACTIVATE** the emergency facilities and restore them to a state of readiness.

4.2.8 **ENSURE** that all emergency records (position logs and forms), are collected and submitted for records retention.

4.3 Preparations to Enter Recovery

4.3.1 **ESTABLISH** Emergency Response Facilities staffing requirements until a Recovery Plan Outline, describing the necessary Recovery Organization, has been approved.

1. Maintain at least the minimum ERO staffing for the TSC, EOF and JPIC while preparations for enter into Recovery are completed.

2. Consider establishing a forced outage organization in order to deactivate the OSC. Ensure minimum staffing requirements are met at all times with onsite personnel until Recovery has been entered.

NOTES: Detailed plans and procedures are not required to be developed prior to entry into Recovery. However, a Recovery Plan Outline must be approved and the organizational staffing needs identified prior to exiting the emergency event.

For events of the Alert classification, Emergency Response Organization (ERO) personnel may be adequate to perform the necessary recovery actions.

For event classifications of Site Area or General Emergency, the typical Recovery Organization (as illustrated in Attachment 2) should be established. Additional positions may be assigned to perform specific recovery activities.

- 4.3.2 **DIRECT** the Station Emergency Director to develop a Station Issues/Strategies Package and determine staffing needs using Attachments 4 and 7 for guidance.
- 4.3.3 **DIRECT** the Corporate Spokesperson to develop a Public Information Issues/Strategies Package and determine staffing needs using Attachments 6 and 7 for guidance.
- 4.3.4 **DIRECT** the EOF Director to develop a Corporate Issues/Strategies Package and determine staffing needs using Attachments 5 and 7 for guidance.
- 4.3.5 **CONVENE** a joint conference with the EOF Director, Station Emergency Director, and the Corporate Spokesperson to:
 - **REVIEW** the Recovery Issues/Strategies Packages.
 - **REVIEW** the identified recovery staffing requirements.
 - **DEVELOP** and **APPROVE** the Recovery Plan Outline using Attachment 3 as a guide.
- 4.3.6 **CONDUCT** a formal discussion with regulatory and State authorities to ensure coordination and agreement is met for entry into Recovery.
- 4.3.7 **NOTIFY** recovery personnel of assignments and stage or call-in for briefing and turnover.
- 4.3.8 **CONTACT** the Exelon Chief Nuclear Officer (CNO) and provide a briefing of the plans to exit the emergency and enter Recovery.

4.4 Entering Recovery from a Declared Event

4.4.1 **DECLARE** and log the official time the emergency is exited and Recovery entered.

4.4.2 **DIRECT** the announcement of the following message (or similar message) to station personnel over the public address system:

"Attention all personnel, attention all personnel. The emergency event has been exited and we have entered Recovery. I repeat, the emergency event has been exited and we have entered Recovery."

4.4.3 **NOTIFY** ERO personnel and the Nuclear Duty Officer (NDO) of entry into Recovery.

4.4.4 **INITIATE** a State/Local notification within one hour of entry into Recovery per EP-MA(MW)-114-100.

4.4.5 **INITIATE** an ENS notification within one hour of entry into Recovery per EP-AA-114.

4.4.6 **ISSUE** an Event Summary Report to offsite authority within 8 hours of exiting the emergency event, using Attachment 8 as a guide.

4.4.7 **CONDUCT** briefing and turnover to recovery personnel.

4.4.8 **DEACTIVATE** the emergency facilities and restore them to a state of readiness.

4.4.9 **ENSURE** that all emergency records (position logs and forms), are collected and submitted for records retention.

4.5 Recovery Phase Actions

NOTE: Entry into the Recovery Phase can be accomplished when the Recovery Plan outline has been approved and the Recovery Organization has been identified, notified and is prepared to take turnover from the ERO.

4.5.1 General Guidance

1. Terminate the use of emergency exposure controls.

A. Revert to non-emergency (10 CFR 20) limits and controls for repair activities conducted during Recovery.

B. Refer to existing plant exposure control procedures for guidance.

2. Terminate the use of other Emergency Procedures (e.g., EP-AA-113, Protective Actions).
 - A. Use existing plant procedures or procedures developed for specific tasks are used for plant repair activities during Recovery.
 - B. Obtain PORC approval for any special station procedures developed for Recovery activities.

4.5.2 Recovery Director

1. **MAINTAIN** a log of specific recovery actions taken such as:
 - Specific actions taken per this procedure.
 - Communication with offsite authorities related to emergency and/or Recovery.
 - Any meetings held to discuss conduct or close out of the recovery phase.
2. **DIRECT** and/or **COORDINATE** all actions of the Recovery Organization.
 - A. **ENSURE** that sufficient personnel, equipment or other resources from Exelon and other organizations are available to support Recovery activities.
 - B. **COORDINATE** the integration of available Federal and State assistance into onsite Recovery activities.
 - C. **COORDINATE** the integration of available Exelon support with Federal, State, county, and local authorities as applicable, into required offsite Recovery activities.
3. Ensure communications are established and maintained with the following:
 - Senior corporate officials.
 - Legal, Financial, Insurance, and Supply Management departments.
 - INPO, NEI, and ANI
4. **APPROVE** any special procedures developed for corporate and offsite recovery activities.
5. **APPROVE** any reports released to offsite authorities.

6. **REVIEW** information released by the Corporate Spokesperson that pertains to the emergency or recovery from the accident.

4.5.3 Recovery Plant Manager

1. **MAINTAIN** a log of specific recovery actions taken such as:
 - Specific actions taken per this procedure.
 - Communication with offsite authorities related to emergency and/or Recovery.
 - Any meetings held to discuss conduct or close out of the recovery phase.
2. **DIRECT** all station activities in support of the recovery effort.
3. **COORDINATE** the implementation of the Recovery Plan and procedures with the Recovery Director.
4. **CONTINUE** to identify and document issues relating to recovery operations.
5. **DEVELOP** an action plan that will transition the Recovery Organization into a normal Forced Outage Organization through OU-AA-102, "Forced Outage Management" as appropriate.
6. **DESIGNATE** other Exelon Recovery positions as necessary, in support of station Recovery activities.
7. **ENSURE** that engineering activities to restore the plant are properly reviewed and approved.

4.5.4 Recovery Offsite Manager

1. **COORDINATE** all corporate activities in support of the recovery effort.
2. **COORDINATE** the implementation of the Recovery Plan and procedures with the Recovery Director.
3. **CONTINUE** to identify and document issues relating to recovery operations.
4. **COMMUNICATE** with offsite agencies and coordinate Exelon assistance for offsite recovery activities, including providing liaisons, as needed.
5. **DESIGNATE** other Exelon Recovery positions as necessary, in support of corporate Recovery activities.

6. **PROVIDE** post-accident reports to offsite agencies as directed, including the development of offsite accident analysis and radiological release reports (or equivalent) as required.
7. **COORDINATE** Exelon and contractor environmental sampling activities with state and federal agencies. This should include calculations for total population exposure based on data from available sources and/or mathematical modeling.

4.5.5 Corporate Spokesperson

1. **COORDINATE** all public information activities in support of the recovery effort.
2. **COORDINATE** the implementation of the Recovery Plan and procedures with the Recovery Director.
3. **CONTINUE** to identify and document issues relating to recovery operations.
4. **DESIGNATE** other Exelon Recovery positions as necessary, in support of public information Recovery activities.
5. **FUNCTION** as the official spokesperson to the press for Exelon on all matters related to the accident or Recovery activities.
6. **COORDINATE** with non-Exelon public information groups (Federal, State, county, etc.).
7. **COORDINATE** continued media monitoring and rumor control activities.

4.6 Termination from Recovery

4.6.1 **CONSIDER** the following prior to terminating the recovery phase:

- Station and corporate organizations involved with the recovery have been appraised of the existing conditions and of the anticipated termination of recovery activities.
- The news media has received a final status report on the recovery operations.
- A review of actions taken during the emergency and recovery phases has been conducted and an investigation report has been prepared.
- Necessary revisions to the Emergency Plan and procedures have been identified.

- Concurrence has been obtained from the NRC and applicable State agencies.

- 4.6.2 **NOTIFY** the recovery organization and the NDO of the Recovery termination.
- 4.6.3 **INITIATE** a State/Local notification within one hour of Recovery termination per EP-MA(MW)-114-100.
- 4.6.4 **INITIATE** an ENS notification within one hour of Recovery termination per EP-AA-114.
- 4.6.5 **DISBAND** the Recovery Organization.

5. **DOCUMENTATION**

None

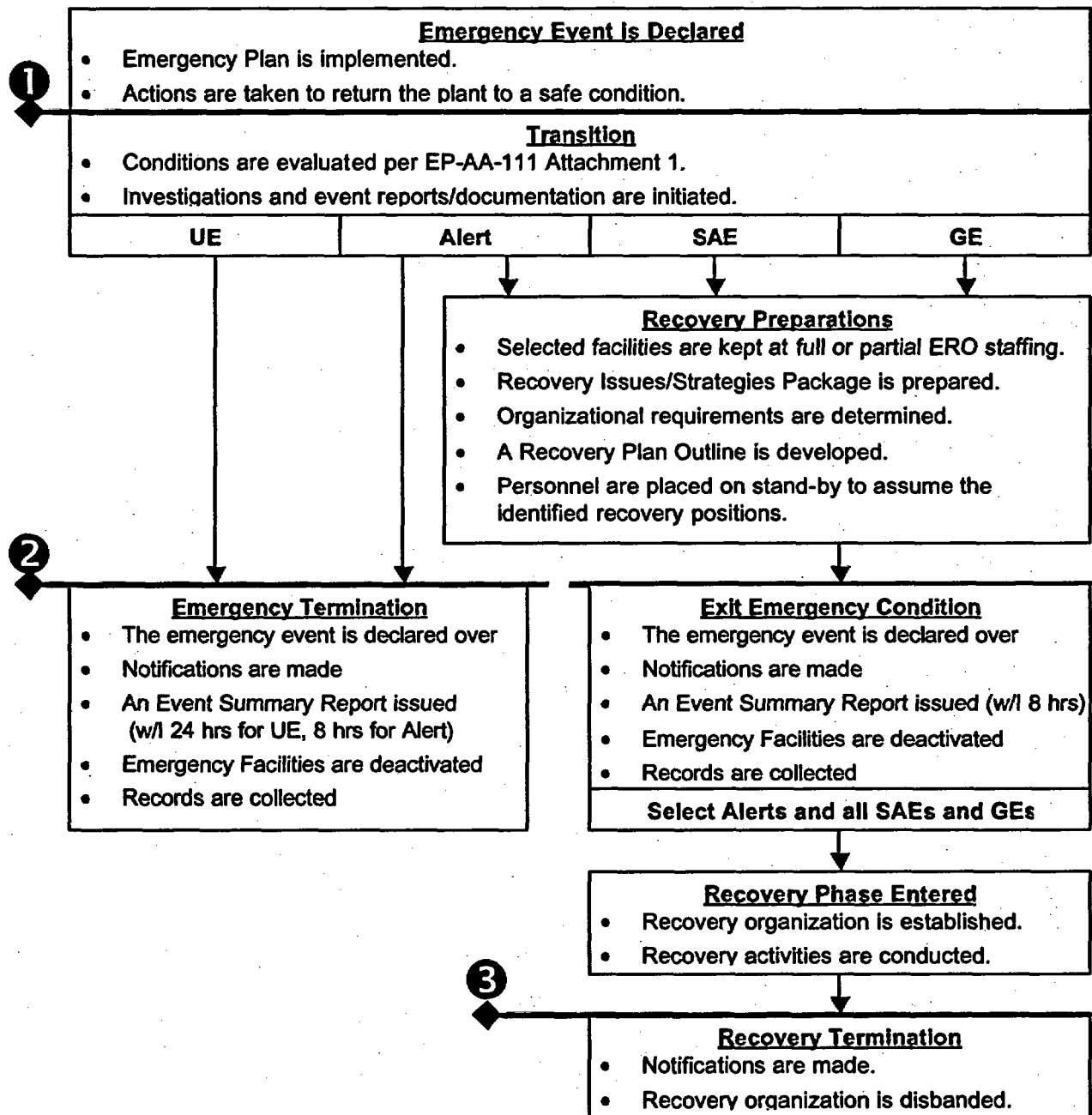
6. **REFERENCES**

None

7. **ATTACHMENTS**

- 7.1 Attachment 1: Recovery Process Illustration
- 7.2 Attachment 2: Typical Recovery Organization
- 7.3 Attachment 3: Recovery Plan Outline
- 7.4 Attachment 4: Station Recovery Issues/Strategies Guide
- 7.5 Attachment 5: Corporate Recovery Issues/Strategies Guide
- 7.6 Attachment 6: Public Information Recovery Issues/Strategies Guide
- 7.7 Attachment 7: Issue/Strategies Form
- 7.8 Attachment 8: Event Summary Report Format

ATTACHMENT 1
RECOVERY PROCESS ILLUSTRATION
Page 1 of 1

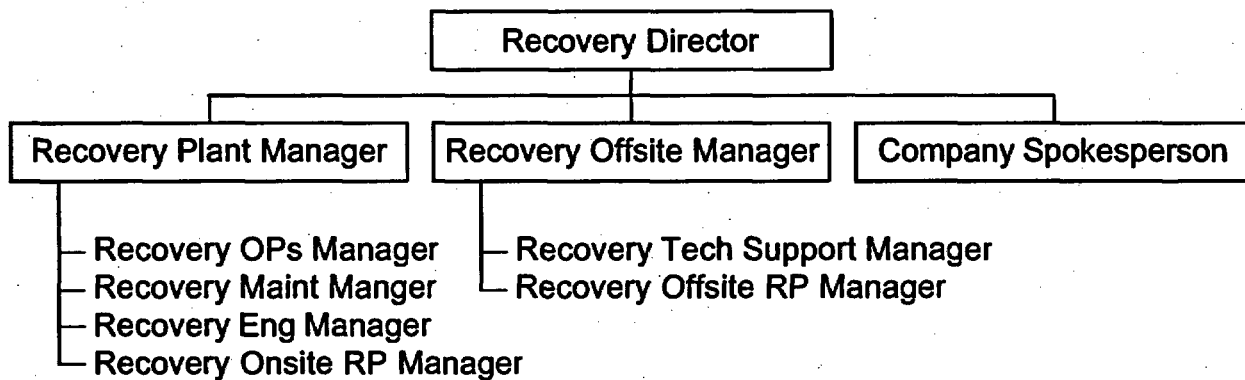


The above markers represent points in time in the chronology of a classified emergency:

- ❶ The initiating state of emergency no longer exists.
- ❷ Formal termination of the *Emergency Phase* occurs.
- ❸ Formal termination of the *Recovery Phase* occurs.

ATTACHMENT 2
TYPICAL RECOVERY ORGANIZATION

Page 1 of 1



NOTES:

- (1) The Recovery Director has overall control of the recovery organization. The position will normally be filled by the ROG, Senior Vice President or designee (Corporate Emergency Director during transition).
- (2) The Recovery Plant Manager directs Recovery activities to restore the plant to pre-incident conditions. The position will normally be filled by the Plant Manager or designee (Station Emergency Director during transition).
- (3) The Offsite Recovery Director Directs the interface with Federal, State and local agencies and coordinates corporate support for the station. The position will normally be filled by the Emergency Preparedness Manager Director or designee (EOF Director during transition).
- (4) The Company Spokesperson directs the Public Information Program. The position will normally be filled by the Corporate Communications Manager or designee (Company Spokesperson during transition).

ATTACHMENT 3
RECOVERY PLAN OUTLINE

Page 1 of 1

NOTE: The Corporate Emergency Director provides approval of the Recovery Plan Outline with the concurrence of the Station Emergency Director and the Corporate Spokesperson.

SECTION I. RECOVERY ORGANIZATION

- A. Organization structure
- B. Assignment of authorities/responsibilities

SECTION II. ONSITE RECOVERY PROGRAM

- A. Major Goals
- B. Issues and Strategies

SECTION III. OFFSITE RECOVERY PROGRAM

- A. Major Goals
- B. Issues and Strategies

SECTION IV. PUBLIC INFORMATION RECOVERY PROGRAM

- A. Major Goals
- B. Issues and Strategies

ATTACHMENT 4
STATION RECOVERY ISSUES / STRATEGIES GUIDE

Page 1 of 3

NOTE: In addition to the ERO positions listed, members of the Security and the Outage Planning Group should attend the initial onsite recovery meeting as necessary.

1. CONVENE a meeting with at least the following positions:

- Station Emergency Director
- TSC Director
- Radiation Protection Manager
- Maintenance Manager
- Technical Manager
- Operations Manager

NOTE: Attachment 7, Issue/Strategies Form should be used to document items identified during the meeting. Complete as much of the form as possible but only the 'Description of Issue' section needs to be completed.

2. REVIEW existing conditions, outline the onsite issues to be resolved, and develop an Issues/Strategies Package that will form the basis for the onsite portion of the plant's Recovery Plan. Issues that should be considered include:

A. Present Activities Being Performed by the ERO

- Identify ongoing activities and determine the need to continue

B. Equipment Status Verifications

- Perform/Document secured lineups
- List/Identify inoperable equipment
- Hang appropriate clearance order tags
- Document temporary repairs/lineup
- Obtain appropriate samples to verify core status

ATTACHMENT 4
STATION RECOVERY ISSUES / STRATEGIES GUIDE

Page 2 of 3

C. Stabilization of Plant Systems for Long Term Cooling

- Identify present cooling lineup(s)
- Document available back-up cooling lineup(s)
- Confirm condition of cooling systems.
- Develop a plan to transition to long term cooling if required

D. System Repairs and Restorations

- Prioritize out of service equipment for restoration
- Plan restoration process by milestones
- Determine testing to increase/ensure equipment reliability
- Determine long term resolution of temporary repairs
- Examine options for temporary systems
- Bring in industry expertise as necessary
- Ensure proper QA on any repairs made during the emergency

E. Normal Radiological Controls

- Perform comprehensive surveys of onsite areas
- Establish additional survey and sampling frequency requirements
- Determine if additional monitoring equipment is required
- Develop a decontamination plan based on prioritized recovery of plant areas
- Commence Bioassay program
- Contract for large volume decontamination equipment/expertise

F. Water Management

- Identify sources, volumes and activity of water inventories
- Prioritize clean-up
- Verify/evaluate condition of existing clean-up systems
- Establish controls to preclude inadvertent discharges

ATTACHMENT 4
STATION RECOVERY ISSUES / STRATEGIES GUIDE

Page 3 of 3

- Evaluate need to contract portable filtering systems/expertise
- Establish berms and restraints for control and mitigation of spills
- Evaluate need for additional onsite waste storage capability
- Evaluate need for additional burial space for waste

G. Logistics of the Recovery Operation

- Identify additional staffing needs.
- Obtain necessary damage control equipment.
- Consider use of outside specialist.
- Set up training for off normal conditions (ALARA).
- Consider restricting site access.
- Order extra RP supplies to support recovery.
- Evaluate the need for additional security.
- Evaluate the need for remote technology for inspections and cleanup.
- Evaluate the need for additional communications capabilities.

H. Documentation

- Initiate actions to complete any required NRC reports per the Reportability Manual.
- Develop onsite portions of the Detailed Incident Report
- Develop onsite Recovery Plan (short/long term)
- Write special procedures to perform tasks outside the scope of normal procedures.

ATTACHMENT 5
CORPORATE RECOVERY ISSUES / STRATEGIES GUIDE

Page 1 of 2

NOTE: In addition to the ERO positions listed, the VP-Licensing and Regulatory Affairs or a representative should attend this meeting.

1. CONVENE a meeting with the following:

- Corporate Emergency Director
- EOF Director
- Radiation Protection Manager
- Logistics Manager

NOTE: Attachment 7, Issue/Strategies Form should be used to document items identified during the meeting. Complete as much of the form as possible but only the 'Description of Issue' section needs to be completed during initial meeting.

2. REVIEW existing conditions, outline the issues to be resolved, and develop an Issues/Strategies Package that will form the basis for the offsite portion of the Recovery Plan. Issues that should be considered include:

A. Present Activities Being Performed by EOF Staff

- Identify ongoing activities and determine the need to continue

B. Radiological

- Evaluate the need for an environmental sampling program.
- If required, estimate total population dose.
- Evaluate reentry requirements.
- Evaluate the need to bring in outside expertise for radiation monitoring.

C. Support to Offsite Authorities

- Consider outstanding requests from offsite authorities
- Keep offsite authorities apprised of onsite conditions and activities

ATTACHMENT 5
CORPORATE RECOVERY ISSUES / STRATEGIES GUIDE

Page 2 of 2

D. Corporate Interface

- Keep corporate management apprised of conditions and activities.
- Provide information to legal organization as requested.
- Identify issues applicable to HR and Employee Assistance.

E. Logistics

- Identify staffing needs to support offsite recovery activities.
- Identify all non-Exelon personnel and activities currently in place.
- Review equipment and material needs for EOF recovery activities.
- Assist onsite and Public Information organizations in obtaining offsite support.
- Evaluate the need for additional communications capabilities.

F. Documentation

- Direct that an Event Summary Report be prepared
- Develop offsite portions of the Detailed Incident Report
- Develop offsite Recovery Plan (short/long term)

ATTACHMENT 6

PUBLIC INFORMATION RECOVERY ISSUES / STRATEGIES GUIDE

Page 1 of 1

NOTE: In addition to the ERO positions listed, the Corporate Communications Manager or a representative should attend this meeting.

1. CONVENE a meeting with the following:

- Corporate Spokesperson
- JPIC Director
- Public Information Director

NOTE: Attachment 7, Issue/Strategies Form should be used to document items identified during the meeting. Complete as much of the form as possible but only the 'Description of Issue' section needs to be completed during initial meeting.

2. REVIEW existing conditions, outline the public information issues to be resolved, and develop an Issues/Strategies Package that will form the basis for the public information portion of the plant's Recovery Plan. Issues that should be considered in the formation of the package include:

A. Present Activities Being Performed by the Emergency Public Information Organization

- Identify ongoing activities and determine the need to continue

B. Offsite Interface

- Identify activities needed to keep offsite authorities apprised of Exelon Public Information activities.

C. Documentation

- Develop the Public Information portion of the Recovery Plan

ISSUES / STRATEGIES FORM

Page 1 of 1

[illegible]

Use this form to document major items to be addressed during Recovery.

Area: Onsite / Offsite / Public Information

Owner:	Responsible individual or organization
--------	--

Safety Related: Yes or No

Priority: 1 = Immediate (24 hr.) 2 = Short Term (1 Week)
 3 = Intermediate (1 Month) 4 = Long Term (> 1 Month)

Duration: **Estimated Calendar Duration**

Estimated-hours:	Estimated Total Project Hours
------------------	-------------------------------

ATTACHMENT 8
EVENT SUMMARY REPORT FORMAT
Page 1 of 1

Date
Time

To: *Offsite Authority* (NRC, State, Local)
From: *Name* (Recovery Director or Emergency Director)
Subject: Event Summary Report of Emergency Declared at the Exelon XX Station

The Station has:

Transitioned into Recovery at _____.

Terminated from a _____ classification at _____.

The following is a review of events and items pertaining to *Indicate EAL and Type* reported on _____.

Provide a narrative of the event (describe the event giving the facts of the emergency including as a minimum:)

Initial Conditions

- Provide unaffected unit status
- Provide affected unit status
- Provide any other pertinent equipment or condition status

Initiating and Sequence of Events

Time	Description of event
0810	description of initiating events
0811	Performance of initial notifications to offsite authorities.
0812	Include information on personnel injuries and status. (Do not include name(s) of victims unless the family has been notified)
0813	Requests for offsite assistance, including time and type.
0814	The magnitude of any radiological release and Protective Action Recommendation information as applicable.

Conclusion

- Provide an update of actions taken and results from investigations of the event.
- Exelon contact for any additional information.