Duke Energy

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Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: McGuire Nuclear Station Unit 1 Docket No. 50-369
McGuire Nuclear Station Unit 2 Docket No. 50-370
Changes to Emergency Plan Implementing Procedures

Attached to this letter are a revised Emergency Plan Implementing Procedure (EPIP) Index and a revised Emergency Plan Implementing Procedure. This procedure change was evaluated pursuant to the requirements of 10 CFR 50.54 (q). This change does not constitute a reduction in the effectiveness of the emergency plan and the plan continues to meet the requirements of 10 CFR 50.47 (b) and 10 CFR 50 Appendix E. Duke implemented this change on November 26, 2001. A copy of this change is also being sent to the NRC Office of Nuclear Material Safety and Safeguards as per 10 CFR 72.44 (f). Revision bars in the procedure indicate the procedure changes. The following index and procedure change has been implemented:

EPIP Index Page 1	RP/0/A/5700/000	Rev. 008
EPIP Index Page 2		
EPIP Index Page 3		

There are no new regulatory commitments in this document. Duke is also supplying two copies of this submittal to the Regional Administrator of Region II. Questions on this document should be directed to Kevin Murray at (704) 875-4672.

Very truly yours,

H. B. Barron

HBB:jcm

Attachments

A045

Rec'd 01/17/02

xc: (w/attachment)
Mr. Luis Reyes,
Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
61 Forsyth St., SW, Suite 23T85
Atlanta, Georgia 30303

(w/attachment)
Mr. Martin J. Virgilio, Director
Office of Nuclear Material Safety and Safeguards
Mail Stop T-8A23
Washington, D.C. 20555-0001

(w/o attachment)
NRC Resident Inspector

R. E. Martin, USNRC

Mike Wilder (EC05O)

Electronic Licensing Library (EC05O)

EP File 111

DUKE

McGUIRE NUCLEAR SITE

EMERGENCY PLAN IMPLEMENTING PROCEDURES

APPROVED: _____
SAFETY ASSURANCE MANAGER

DATE APPROVED 11/28/01

EPIP Index Page 1	Dated	11/26/2001
EPIP Index Page 2	Dated	11/26/2001
EPIP Index Page 3	Dated	11/26/2001
RP/0/A/5700/000	Dated	11/26/2001

EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

PROCEDURE #	TITLE	REVISION NUMBER
RP/0/A/5700/000	Classification of Emergency	Rev. 008
RP/0/A/5700/001	Notification of Unusual Event	Rev. 015
RP/0/A/5700/002	Alert	Rev. 015
RP/0/A/5700/003	Site Area Emergency	Rev. 015
RP/0/A/5700/004	General Emergency	Rev. 015
RP/0/A/5700/05	Care and Transportation of Contaminated Injured Individual(s) From Site to Offsite Medical Facility	DELETE
RP/0/A/5700/006	Natural Disasters	Rev. 009
RP/0/A/5700/007	Earthquake	Rev. 007
RP/0/A/5700/008	Release of Toxic or Flammable Gases	Rev. 004
RP/0/A/5700/009	Collisions/Explosions	Rev. 001
RP/0/A/5700/010	NRC Immediate Notification Requirements	Rev. 013
RP/0/A/5700/011	Conducting a Site Assembly, Site Evacuation or Containment Evacuation	Rev. 005
RP/0/A/5700/012	Activation of the Technical Support Center (TSC)	Rev. 019
RP/0/A/5700/013	Activation of the Emergency Operations Facility (EOF)	DELETE
RP/0/A/5700/14	Emergency Telephone Directory	DELETE
RP/0/A/5700/015	Notifications to the State and Counties from the EOF	DELETE
RP/0/A/5700/16	EOF Commodities and Facilities Procedure	DELETE
RP/0/A/5700/17	Emergency Data Transmittal System Access	DELETE
RP/0/A/5700/018	Notifications to the State and Counties from the TSC	Rev. 009
RP/0/A/5700/019	Core Damage Assessment	Rev. 003
RP/0/A/5700/020	Activation of the Operations Support Center (OSC)	Rev. 011
RP/0/A/5700/21	EOF Access Control	DELETE
RP/0/A/5700/022	Spill Response Procedure	Rev. 009
RP/0/A/5700/024	Recovery and Reentry Procedure	Rev. 002
RP/0/A/5700/026	Operations/Engineering Technical Evaluations in the Technical Support Center (TSC)	Rev. 002
RP/0/B/5700/023	Community Relations Emergency Response Plan	Rev. 002
OP/0/B/6200/090	PALSS Operation for Accident Sampling	Rev. 010

EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

PROCEDURE #	TITLE	REVISION NUMBER
HP/0/B/1009/002	Alternative Method for Determining Dose Rate Within the Reactor Building	Rev. 002
HP/0/B/1009/003	Recovery Plan	Rev. 003
HP/0/B/1009/05	Initial Evaluation of Protective Action Guides Due to Abnormal Plant Conditions	DELETED
HP/0/B/1009/006	Procedure for Quantifying High Level Radioactivity Releases During Accident Conditions	Rev. 005
HP/0/B/1009/010	Releases of Radioactive Effluents Exceeding Selected Licensee Commitments	Rev. 006
HP/1/B/1009/015	Unit 1 Nuclear Post-Accident Containment Air Sampling System Operating Procedure	Rev. 003
HP/2/B/1009/015	Unit 2 Nuclear Post-Accident Containment Air Sampling System Operating Procedure	Rev. 003
HP/0/B/1009/016	Distribution of Potassium Iodide Tablets in the Event of a Radioiodine Release	Rev. 002
HP/0/B/1009/020	Manual Procedure for Offsite Dose Projections	DELETED
HP/0/B/1009/021	Estimating Food Chain Doses Under Post-Accident Conditions	Rev. 001
HP/0/B/1009/022	Accident and Emergency Response	Rev. 002
HP/0/B/1009/023	Environmental Monitoring for Emergency Conditions	Rev. 003
HP/0/B/1009/024	Personnel Monitoring for Emergency Conditions	Rev. 001
HP/0/B/1009/029	Initial Response On-Shift Dose Assessment	Rev. 005
SH/0/B/2005/001	Emergency Response Offsite Dose Projections	Rev. 001
SH/0/B/2005/002	Protocol for the Field Monitoring Coordinator During Emergency Conditions	Rev. 001
SR/0/B/2000/01	Standard Procedure for Public Affairs Response to the Emergency Operations Facility	Rev. 003
SR/0/B/2000/002	Standard Procedure for EOF Commodities and Facilities	Rev. 002
SR/0/B/2000/003	Activation of the Emergency Operations Facility	Rev. 008
SR/0/B/2000/004	Notification to States and Counties from the Emergency Operations Facility	Rev. 003

EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

PROCEDURE #	TITLE		REVISION NUMBER
McGuire Site Directive 280	Site Assembly/Accountability and Evacuation/Containment Evacuation		DELETED
EP Group Manual	Section 1.1	Emergency Organization	Rev. 017
MNS RP Manual:	Section 18.1	Accident and Emergency Response	DELETED
	Section 18.2	Environmental Monitoring for Emergency Conditions	DELETED
	Section 18.3	Personnel Monitoring for Emergency Conditions	DELETED
	Section 18.4	Planned Emergency Exposure	DELETED
PT/0/A/4600/088	Functional Check of Emergency Vehicle and Equipment		Rev. 006

(R04-01)

Duke Power Company
PROCEDURE PROCESS RECORD

(1) ID No. RP/0/A/5700/000
Revision No. 008

PREPARATION

(2) Station MCGUIRE NUCLEAR STATION

(3) Procedure Title Classification of Emergency

(4) Prepared By K. L. Murray Date 11-15-01

(5) Requires NSD 228 Applicability Determination?

- ☑ Yes (New procedure or revision with major changes)
- ☐ No (Revision with minor changes)
- ☐ No (To incorporate previously approved changes)

(6) Reviewed By Alan L. Beaver (QR) Date 11/15/01

Cross-Disciplinary Review By [signature] (QR) NA ____ Date 11/15/01

Reactivity Mgmt. Review By ____ (QR) NA AEB Date 11/15/01

Mgmt. Involvement Review By ____ (Ops Supt.) NA AEB Date 11/15/01

(7) Additional Reviews

Reviewed By ____ Date ____

Reviewed By ____ Date ____

(8) Temporary Approval (*if necessary*)

By ____ (OSM/QR) Date ____

By ____ (QR) Date ____

(9) Approved By Bryan Dolan Date 11/26/01

PERFORMANCE (***Compare with Control Copy every 14 calendar days while work is being performed.***)

(10) Compared with Control Copy ____ Date ____

Compared with Control Copy ____ Date ____

Compared with Control Copy ____ Date ____

(11) Date(s) Performed ____

Work Order Number (WO#) ____

COMPLETION

(12) Procedure Completion Verification

- ☐ Yes ☐ NA Check lists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
- ☐ Yes ☐ NA Required enclosures attached?
- ☐ Yes ☐ NA Data sheets attached, completed, dated, and signed?
- ☐ Yes ☐ NA Charts, graphs, etc. attached dated, identified, and marked?
- ☐ Yes ☐ NA Procedure requirements met?

Verified By ____ Date ____

(13) Procedure Completion Approved ____ Date ____

(14) Remarks (***Attach additional pages, if necessary***)

Duke Power Company McGuire Nuclear Station **Classification of Emergency** **Reference Use**	Procedure No. RP/0/A/5700/000 Revision No. 008 Electronic Reference No. MC0048M3

Classification of Emergency

1.0 Symptoms

1.1 Notification of Unusual Event

1.1.1 Events are in process or have occurred which indicate a potential degradation of the level of safety of the plant.

1.1.2 No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

1.2 Alert

1.2.1 Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant.

1.2.2 Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

1.3 Site Area Emergency

1.3.1 Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public.

1.3.2 Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels except near the site boundary.

1.4 General Emergency

1.4.1 Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity.

1.4.2 Releases can be reasonably expected to exceed EPA Protective Action Guidelines exposure levels offsite for more than the immediate site area.

2.0 Immediate Actions

_____ 2.1 Determine operating mode that existed at the time the event occurred prior to any protection system or operator action initiated in response of the event.

_____ 2.2 **IF** the plant was in Mode 1-4 and a valid condition affects fission product barriers, **THEN** proceed to Enclosure 4.1 (Fission Product Barrier Matrix).

_____ 2.3 **IF** a General Emergency is **NOT** declared in Step 2.2, **THEN** review the listing of enclosures to determine if the event is applicable to one of the categories shown.

_____ 2.4 Compare actual plant conditions to the Emergency Action Levels listed, then declare the appropriate Emergency Class as indicated.

_____ 2.5 Implement the applicable Emergency Response Procedure (RP) for that classification and continue with subsequent steps of this procedure.

Notification of Unusual Event	RP/0/A/5700/001
Alert	RP/0/A/5700/002
Site Area Emergency	RP/0/A/5700/003
General Emergency	RP/0/A/5700/004.

3.0 Subsequent Actions

_____ 3.1 To escalate, de-escalate, or terminate the Emergency, compare plant conditions to the Initiating Conditions of Enclosures 4.1 through 4.7.

_____ 3.2 Refer to enclosure 4.9, Emergency Declaration Guidelines, as needed.

4.0 Enclosures

4.1 Fission Product Barrier Matrix.
4.2 System Malfunctions.
4.3 Abnormal Rad Levels/Radiological Effluent.
4.4 Loss of Shutdown Functions.
4.5 Loss of Power
4.6 Fire/Explosion and Security Events.
4.7 Natural Disasters, Hazards and Other Conditions Affecting Plant Safety.
4.8 Definitions/Acronyms.
4.9 Emergency Declaration Guidelines.
4.10 Radiation Monitor Readings for Enclosure 4.3 EALs
4.11 Commitment Reference for Emergency Action Levels.

Fission Product Barrier Matrix

Use EALs to determine Fission Product Barrier status (Intact, Potential Loss, or Loss). Add points for all 3 barriers. Classify according to the table below.

Note 1: This table is only applicable in Modes 1-4.

Note 2: Also, an event (or multiple events) could occur which results in the conclusion that exceeding the Loss or Potential Loss thresholds is IMMINENT (i.e., within 1-3 hours). In this IMMINENT LOSS situation, use judgement and classify as if the thresholds are exceeded.

Note 3: When determining Fission Product Barrier status, the Fuel Clad Barrier should be considered to be lost or potentially lost if the conditions for the Fuel Clad Barrier loss or potential loss EALs were met previously during the event, even if the conditions do not currently exist.

Note 4: Critical Safety Function (CSF) indications are not meant to include transient alarm conditions which may appear during the start-up of engineered safeguards equipment. A CSF condition is satisfied when the alarmed state is valid and sustained. The C/R STA should be consulted to affirm if any CSF has been validated and an appropriate function restoration procedure implemented prior to that CSF being used as the basis to classify an emergency. {1}

Unusual Event (1 - 3 Points)	Alert (4 - 6 Points)	Site Area Emergency (7 - 10 Points)	General Emergency (11 - 13 Points)
• Any Potential Loss of Containment.	• Any Potential Loss or Loss of the NCS.	• Loss of both NCS and Fuel Clad.	• Loss of all three barriers.
• Any Loss of Containment.	• Any Potential Loss or Loss of Fuel Clad.	• Potential Loss of both NCS and Fuel Clad.	• Loss of any two barriers and the Potential Loss of the third barrier.
		• Potential Loss of either the NCS or Fuel Clad and Loss of any additional barrier.	

NOTE: Take highest points for each barrier and add together in chart below. Do not take more than one number for each barrier. "Not applicables" are included in this table as place holders only, and no points are assigned.

		TOTAL POINTS	
Containment	_____		
NCS	_____	1 - 3	Unusual Event
		4 - 6	Alert
Fuel Clad	_____	7-10	Site Area Emergency
		11-13	General Emergency
Total Points	_____		

Fission Product Barrier Matrix

4.1.C CONTAINMENT BARRIER

POTENTIAL LOSS - (1 Point)	LOSS - (3 Points)
1. Critical Safety Function Status	
• Containment-RED.	• Not applicable.
2. Containment Conditions	
• Containment Pressure > 15 PSIG. • H2 concentration > 9%. • Containment pressure greater than 3 psig with less than one full train of NS and a VX-CARF operating.	• Rapid unexplained decrease in containment pressure following initial increase. • Containment pressure or sump level response not consistent with LOCA conditions.

CONTINUED

4.1.N NCS BARRIER

POTENTIAL LOSS - (4 Points)	LOSS - (5 Points)
1. Critical Safety Function Status	
• NCS Integrity-RED. • Heat Sink-RED.	• Not applicable.
2. NCS Leak Rate	
• Unisolable leak exceeding the capacity of one charging pump in the normal charging mode with letdown isolated.	• GREATER THAN available makeup capacity as indicated by a loss of NCS subcooling.

CONTINUED

4.1.F FUEL CLAD BARRIER

POTENTIAL LOSS - (4 Points)	LOSS - (5 Points)
1. Critical Safety Function Status	
• Core Cooling-ORANGE. • Heat Sink-RED.	• Core Cooling-RED
2. Primary Coolant Activity Level	
• Not applicable.	• Coolant Activity GREATER THAN 300 μCi/cc Dose Equivalent Iodine (DEI) I-131.

CONTINUED

Fission Product Barrier Matrix

4.1.C CONTAINMENT BARRIER	
POTENTIAL LOSS - (1 Point)	LOSS - (3 Points)
3. Containment Isolation Valves Status After Containment Isolation Actuation	
• Not applicable.	• Containment isolation is incomplete and a release path from containment exists.
4. SG Secondary Side Release With Primary-to-Secondary Leakage	
• Not applicable.	• Release of secondary side to atmosphere with primary to secondary leakage GREATER THAN Tech Spec allowable.
CONTINUED	

4.1.N NCS BARRIER	
POTENTIAL LOSS - (4 Points)	LOSS - (5 Points)
3. SG Tube Rupture	
• Primary-to-Secondary leak rate exceeds the capacity of one charging pump in the normal charging mode with letdown isolated.	• Indication that a SG is Ruptured and has a Non-Isolable secondary line fault. • Indication that a SG is ruptured and a prolonged release of contaminated secondary coolant is occurring from the affected SG to the environment.
4. Containment Radiation Monitoring	
• Not applicable.	• Not applicable.
CONTINUED	

4.1.F FUEL CLAD BARRIER	
POTENTIAL LOSS - (4 Points)	LOSS - (5 Points)
3. Containment Radiation Monitoring	
• Not applicable.	• Containment radiation monitor 51 A or 51 B reading >117 R/hr.
4. Emergency Coordinator/EOF Director Judgement	
• Any condition, including inability to monitor the barrier, that in the opinion of the Emergency Coordinator/EOF Director indicates **LOSS** or **POTENTIAL LOSS** of the fuel clad barrier.	
END	

Fission Product Barrier Matrix

4.1.C CONTAINMENT BARRIER

POTENTIAL LOSS - (1 Point)	LOSS - (3 Points)
5. Significant Radioactive Inventory In Containment • Containment Rad. Monitor EMF51A or 51B Reading @ time since shutdown: > 470 R/hr @ 0 - 0.5 hr > 170 R/hr @ 0.5 - 2 hr > 125 R/hr @ 2 - 4 hr > 90 R/hr @ 4 - 8 hr > 53 R/hr @ > 8 hr.	• Not applicable.
6. Core Cooling • Core cooling - RED path is indicated for >15 min.	• Not applicable.

CONTINUED

4.1.N NCS BARRIER

POTENTIAL LOSS - (4 Points)	LOSS - (5 Points)
5. Emergency Coordinator/EOF Director Judgement • Any condition, including inability to monitor the barrier, that in the opinion of the Emergency Coordinator/EOF Director indicates **LOSS** or **POTENTIAL LOSS** of the NCS barrier. **END**	

4.1.F FUEL CLAD BARRIER

POTENTIAL LOSS - (4 Points)	LOSS - (5 Points)

Fission Product Barrier Matrix

4.1.C CONTAINMENT BARRIER		4.1.N NCS BARRIER		4.1.F FUEL CLAD BARRIER	
POTENTIAL LOSS - (1 Point)	LOSS - (3 Points)	POTENTIAL LOSS - (4 Points)	LOSS - (5 Points)	POTENTIAL LOSS - (4 Points)	LOSS - (5 Points)
7. Emergency Coordinator /EOF Director Judgement • Any condition, including inability to monitor the barrier, that in the opinion of the Emergency Coordinator/EOF Director indicates **LOSS** or **POTENTIAL LOSS** of the containment barrier. **END**					

Enclosure 4.2

System Malfunctions

UNUSUAL EVENT

4.2.U.1 Inability to Reach Required Shutdown Within Technical Specification Limits.

OPERATING MODE: 1, 2, 3, 4

4.2.U.1-1 Plant is not brought to required operating mode within Technical Specifications LCO Action Statement Time.

4.2.U.2 Unplanned Loss of Most or All Safety System Annunciation or Indication in the Control Room for Greater Than 15 Minutes.

OPERATING MODE: 1 , 2, 3, 4

4.2.U.2-1 The following conditions exist:

Unplanned loss of most (>50%) annunciators associated with safety systems for greater than 15 minutes.

AND

In the opinion of the Operations Shift Manager/Emergency Coordinator/EOF Director, the loss of the annunciators or indicators requires additional personnel (beyond normal shift compliment) to safely operate the unit.

CONTINUED

ALERT

4.2.A.1 Unplanned Loss of Most or All Safety System Annunciation or Indication in Control Room With Either (1) a Significant Transient in Progress, or (2) Compensatory Non-Alarming Indicators Unavailable.

OPERATING MODE: 1, 2, 3, 4

4.2.A.1-1 The following conditions exist:

Unplanned loss of most (>50%) annunciators associated with safety systems for greater than 15 minutes.

AND

In the opinion of the Operations Shift Manager/Emergency Coordinator/EOF Director, the loss of the annunciators or indicators requires additional personnel (beyond normal shift compliment) to safely operate the unit.

AND

EITHER of the following:
A significant plant transient is in progress.

OR

Loss of the OAC.

END

SITE AREA EMERGENCY

4.2.S.1 Inability to Monitor a Significant Transient in Progress.

OPERATING MODE: 1, 2, 3, 4

4.2.S.1-1 The following conditions exist:

Loss of most (>50%) annunciators associated with safety systems.

AND

A significant plant transient is in progress.

AND

Loss of the OAC.

AND

Inability to provide manual monitoring of any of the following Critical Safety Functions:

- subcriticality
- core cooling
- heat sink
- containment.

END

GENERAL EMERGENCY

END

UNUSUAL EVENT | ALERT | SITE AREA EMERGENCY | GENERAL EMERGENCY

4.2.U.3 Fuel Clad Degradation.

OPERATING MODE: 1, 2, 3, 4, 5

4.2.U.3-1 Dose Equivalent I-131 greater than the Technical Specification allowable limit.

4.2.U.4 Reactor Coolant System (NCS) Leakage.

OPERATING MODE: 1, 2, 3, 4

4.2.U.4-1 Unidentified leakage $\geq$ 10 gpm.

4.2.U.4-2 Pressure boundary leakage $\geq$ 10 gpm.

4.2.U.4-3 Identified leakage $\geq$ 25 gpm.

4.2.U.5 Unplanned Loss of All Onsite or Offsite Communications.

OPERATING MODE: ALL

4.2.U.5-1 Loss of all onsite communications capability (internal phone system, PA system, onsite radio system) affecting the ability to perform routine operations.

4.2.U.5-2 Loss of all offsite communications capability (Selective Signaling, NRC ETS lines, offsite radio system, commercial phone system) affecting the ability to communicate with offsite authorities.

END

Enclosure 4.3

Abnormal Rad Levels/Radiological Effluent

UNUSUAL EVENT

4.3.U.1 Any Unplanned Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds Two Times the SLC Limits for 60 Minutes or Longer.

OPERATING MODE: ALL

Note: (This applies to all EALs in the 4.3.U.1 IC). If the monitor reading is sustained for the time period indicated in the EAL AND the required assessments (procedure calculations) cannot be completed within this time period, declaration must be made based on the valid radiation monitor reading.

4.3.U.1-1 A valid indication on radiation monitor EMF- 49L, EMF-44L or EMF-31 (when aligned to RC) of ≥ 5.45E+06 cpm for ≥ 60 minutes or will likely continue for ≥ 60 minutes, which indicates that the release may have exceeded the initiating condition and indicates the need to assess the release with procedure HP/0/B/1009/010, HP/0/B/1009/029, or SH/0/B/2005/001.

(Continued)

ALERT

4.3.A.1 Any Unplanned Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds 200 Times the SLC limits for 15 Minutes or Longer.

OPERATING MODE: ALL

Note: (This applies to all EALs in the 4.3.A.1 IC). If the monitor reading is sustained for the time period indicated in the EAL AND the required assessments (procedure calculations) cannot be completed within this time period, declaration must be made based on the valid radiation monitor reading.

4.3.A.1-1 A valid indication on radiation monitor EMF- 49H of ≥ 1. 56 E + 03 cpm for ≥ 15 minutes or will likely continue for ≥15 minutes, which indicates that the release may have exceeded the initiating condition and indicates the need to assess the release with procedure HP/0/B/1009/010, HP/0/B/1009/029, or SH/0/B/2005/001.

(Continued)

SITE AREA EMERGENCY

4.3.S.1 Boundary Dose Resulting from an Actual or Imminent Release of Radioactivity that Exceeds 100 mRem TEDE or 500 mRem CDE Adult Thyroid for the Actual or Projected Duration of the Release.

OPERATING MODE: ALL

Note 1: These EMF readings are calculated based on average annual meteorology, site boundary dose rate, and design unit vent flow rate. Calculations by the dose assessment team use actual meteorology, release duration, and unit vent flow rate. Therefore, these EMF readings should not be used if dose assessment team calculations are available.

(Continued)

GENERAL EMERGENCY

4.3.G.1 Boundary Dose Resulting from an Actual or Imminent Release of Radioactivity that Exceeds 1000 mRem TEDE or 5000 mRem CDE Adult Thyroid for the Actual or Projected Duration of the Release.

OPERATING MODE: ALL

Note 1: These EMF readings are calculated based on average annual meteorology, site boundary dose rate, and design unit vent flow rate. Calculations by the dose assessment team use actual meteorology, release duration, and unit vent flow rate. Therefore, these EMF readings should not be used if dose assessment team calculations are available.

(Continued)

Abnormal Rad Levels/Radiological Effluent

UNUSUAL EVENT

4.3.U.1-2 A valid indication on radiation monitor EMF- 36L of ≥ 3.00E+04 cpm for ≥ 60 minutes or will likely continue for ≥ 60 minutes, which indicates that the release may have exceeded the initiating condition and indicates the need to assess the release with procedure HP/0/B/1009/010, HP/0/B/1009/029, or SH/0/B/2005/001.

4.3.U.1-3 A valid indication on radiation monitor EMF-31 (when aligned to WC or WWCB) of ≥ 9.174 E+03 cpm for ≥ 60 minutes or will likely continue for ≥ 60 minutes which indicates that the release may have exceeded the initiating condition and indicates the need to assess the release with procedure HP/0/B/1009/010, HP/0/B/1009/029, or SH/0/B/2005/001.

4.3.U.1-4 Gaseous effluent being released exceeds two times SLC 16.11-6 for ≥ 60 minutes as determined by Radiation Protection (RP) procedure.

4.3.U.1-5 Liquid effluent being released exceeds two times SLC 16.11-1 for ≥ 60 minutes as determined by Radiation Protection (RP) procedure.

(Continued)

ALERT

4.3.A.1-2 A valid indication on radiation monitor EMF- 36L of ≥ 3.00E+06 cpm for ≥ 15 minutes or will likely continue for ≥ 15 minutes, which indicates that the release may have exceeded the initiating condition and indicates the need to assess the release with procedure HP/0/B/1009/010, HP/0/B/1009/029, or SH/0/B/2005/001.

4.3.A.1-3 Gaseous effluent being released exceeds 200 times the level of SLC 16.11-6 for ≥ 15 minutes as determined by Radiation Protection (RP) procedure.

4.3.A.1-4 Liquid effluent being released exceeds 200 times the level of SLC 16.11-1 for ≥ 15 minutes as determined by Radiation Protection (RP) procedure.

(Continued)

SITE AREA EMERGENCY

Note 2: If dose assessment team calculations cannot be completed in 15 minutes, then valid monitor reading should be used for emergency classification.

4.3.S.1-1 A valid indication on radiation monitor EMF-36H of ≥2.81 E + 03 cpm sustained for ≥ 15 minutes.

4.3.S.1-2 Dose assessment team calculations indicate dose consequences greater than 100 mRem TEDE or 500 mRem CDE Adult Thyroid at the site boundary.

4.3.S.1-3 Analysis of field survey results or field survey samples indicates dose consequences greater than 100 mRem TEDE or 500 mRem CDE Adult Thyroid at the site boundary.

END

GENERAL EMERGENCY

Note 2: If dose assessment team calculations cannot be completed in 15 minutes, then valid monitor reading should be used for emergency classification.

4.3.G.1-1 A valid indication on radiation monitor EMF-36H of ≥2.81 E + 04 cpm sustained for ≥15 minutes.

4.3.G.1-2 Dose assessment team calculations indicate dose consequences greater than 1000 mRem TEDE or 5000 mRem CDE Adult Thyroid at the site boundary.

4.3.G.1-3 Analysis of field survey results or field survey samples indicates dose consequences greater than 1000 mRem TEDE or 5000 mRem CDE Adult Thyroid at the site boundary.

END

Abnormal Rad Levels/Radiological Effluent

UNUSUAL EVENT

4.3.U.2 Unexpected Increase in Plant Radiation or Airborne Concentration.

OPERATING MODE: ALL

4.3.U.2-1 Indication of uncontrolled water level decrease of greater than 6 inches in the reactor refueling cavity with all irradiated fuel assemblies remaining covered by water.

4.3.U.2-2 Uncontrolled water level decrease of greater than 6 inches in the spent fuel pool and fuel transfer canal with all irradiated fuel assemblies remaining covered by water.

4.3.U.2-3 Unplanned valid area EMF reading increases by a factor of 1000 over normal levels as shown in Enclosure 4.10.

END

ALERT

4.3.A.2 Major Damage to Irradiated Fuel or Loss of Water Level that Has or Will Result in the Uncovering of Irradiated Fuel Outside the Reactor Vessel.

Does not apply to spent fuel in dry cask storage.

OPERATING MODE: ALL

4.3.A.2-1 An unplanned valid trip II alarm on any of the following radiation monitors:

Spent Fuel Building
Refueling Bridge
1EMF-17
2EMF-4

Spent Fuel Pool Ventilation
1EMF-42
2EMF-42

Reactor Building Refueling Bridge
1EMF-16*
2EMF-3*

Containment Noble Gas
1EMF-39*
2EMF-39*

*Applies to Mode 6 and No Mode Only.

(Continued)

SITE AREA EMERGENCY

GENERAL EMERGENCY

Abnormal Rad Levels/Radiological Effluent

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
	4.3.A.2-2 Plant personnel report that water level drop in reactor refueling cavity, spent fuel pool, or fuel transfer canal has or will exceed makeup capacity such that any irradiated fuel will become uncovered.		
	4.3.A.2-3 NC system wide range level <358 inches after initiation of NC system make-up. **AND** Any irradiated fuel assembly not capable of being lowered into spent fuel pool or reactor vessel.		
	4.3.A.2-4 Spent Fuel Pool or Fuel Transfer Canal level decrease of >2 feet after initiation of makeup. **AND** Any irradiated fuel assembly not capable of being fully lowered into the spent fuel pool racks or transfer canal fuel transfer system basket.		

(Continued)

Abnormal Rad Levels/Radiological Effluent

UNUSUAL EVENT | ALERT | SITE AREA EMERGENCY | GENERAL EMERGENCY

4.3.A.3 Release of Radioactive Material or Increases in Radiation Levels Within the Facility That Impedes Operation of Systems Required to Maintain Safe Operations or to Establish or Maintain Cold Shutdown.

OPERATING MODE: ALL

4.3.A.3-1 Valid reading on EMF-12 greater than 15 mR/hr in the Control Room.

4.3.A.3-2 Valid indication of radiation levels greater than 15 mR/hr in the Central Alarm Station (CAS) or Secondary Alarm Station (SAS).

4.3.A.3-3 Valid radiation monitor reading exceeds the levels shown in Enclosure 4.10.

END

Enclosure 4.4

Loss of Shutdown Functions

UNUSUAL EVENT

END

ALERT

4.4.A.1 Failure of Reactor Protection System Instrumentation to Complete or Initiate an Automatic Reactor Trip Once a Reactor Protection System Setpoint Has Been Exceeded and Manual Trip Was Successful.

OPERATING MODE: 1, 2, 3

4.4.A.1-1 The following conditions exist:

Valid reactor trip signal received or required and automatic reactor trip was not successful.

AND

Manual reactor trip from the control room is successful and reactor power is less than 5% and decreasing.

(Continued)

SITE AREA EMERGENCY

4.4.S.1 Failure of Reactor Protection System Instrumentation to Complete or Initiate an Automatic Reactor Trip Once a Reactor Protection System Setpoint Has Been Exceeded and Manual Trip Was NOT Successful.

OPERATING MODE: 1

4.4.S.1-1 The following conditions exist:

Valid reactor trip signal received or required and automatic reactor trip was not successful.

AND

Manual reactor trip from the control room was **NOT** successful in reducing reactor power to less than 5% and decreasing.

(Continued)

GENERAL EMERGENCY

4.4.G.1 Failure of the Reactor Protection System to Complete an Automatic Trip and Manual Trip was NOT Successful and There is Indication of an Extreme Challenge to the Ability to Cool the Core.

OPERATING MODE: 1

4.4.G.1-1 The following conditions exist:

Valid reactor trip signal received or required and automatic reactor trip was not successful.

AND

Manual reactor trip from the control room was **NOT** successful in reducing reactor power to less than 5% and decreasing.

AND

EITHER of the following conditions exist:

- Core Cooling CSF-RED
- Heat Sink CSF-RED.

END

Loss of Shutdown Functions

UNUSUAL EVENT

ALERT

4.4.A.2 Inability to Maintain Plant in Cold Shutdown.

OPERATING MODE: 5, 6

4.4.A.2-1 Total loss of ND and/or RN and/or KC.

AND

One of the following:

- Inability to maintain reactor coolant temperature below 200°F

OR

- Uncontrolled reactor coolant temperature rise to >180°F.

END

SITE AREA EMERGENCY

4.4.S.2 Complete Loss of Function Needed to Achieve or Maintain Hot Shutdown.

OPERATING MODE: 1, 2, 3, 4

4.4.S.2-1 Subcriticality CSF-RED.

4.4.S.2-2 Heat Sink CSF-RED.

4.4.S.3 Loss of Water Level in the Reactor Vessel That Has or Will Uncover Fuel in the Reactor Vessel.

OPERATING MODE: 5, 6

4.4.S.3-1 Failure of heat sink causes loss of cold shutdown conditions.

AND

Lower range Reactor Vessel Level Indication System (RVLIS) decreasing after initiation of NC system makeup.

4.4.S.3-2 Failure of heat sink causes loss of cold shutdown conditions.

AND

Reactor Coolant (NC) system narrow range level less than 6 inches and decreasing after initiation of NC system makeup.

(Continued)

GENERAL EMERGENCY

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
		4.4.S.3-3 Failure of heat sink causes loss of cold shutdown conditions. **AND** Either train ultrasonic level indication less than 6 inches and decreasing after initiation of NC system makeup. **END**	

Loss of Power

UNUSUAL EVENT

4.5.U.1 Loss of All Offsite Power to Essential Busses for Greater Than 15 Minutes.

OPERATING MODE: 1, 2, 3, 4

4.5.U.1-1 The following conditions exist:

Loss of offsite power to essential buses ETA and ETB for greater than 15 minutes.

AND

Both emergency diesel generators are supplying power to their respective essential busses.

(Continued)

ALERT

4.5.A.1 Loss of All Offsite Power and Loss of All Onsite AC Power to Essential Busses During Cold Shutdown Or Refueling Mode.

OPERATING MODE: 5, 6, No Mode

4.5.A.1-1 Loss of all offsite and onsite AC power as indicated by:

Loss of power on essential buses ETA and ETB.

AND

Failure to restore power to at least one essential bus within 15 minutes.

(Continued)

SITE AREA EMERGENCY

4.5.S.1 Loss of All Offsite Power and Loss of All Onsite AC Power to Essential Busses.

OPERATING MODE: 1, 2, 3, 4

4.5.S.1-1 Loss of all offsite and onsite AC power as indicated by:

Loss of power on essential buses ETA and ETB.

AND

Failure to restore power to at least one essential bus within 15 minutes.

(Continued)

GENERAL EMERGENCY

4.5.G.1 Prolonged Loss of All (Offsite and Onsite) AC Power.

OPERATING MODE: 1, 2, 3, 4

4.5.G.1-1 Prolonged loss of all offsite and onsite AC power as indicated by:

Loss of power on essential buses ETA and ETB for greater than 15 minutes.

AND

Standby Shutdown Facility (SSF) fails to supply NC pump seal injection **OR** CA supply to Steam Generators.

AND

(Continued)

UNUSUAL EVENT

OPERATING MODE: 5, 6, No Mode

4.5.U.1-2 The following conditions exist:
Loss of offsite power to essential buses ETA and ETB for greater than 15 minutes.

AND

One emergency diesel generator is supplying power to its respective essential bus.

Continued

ALERT

4.5.A.2 AC Power to Essential Busses Reduced to a Single Power Source for Greater Than 15 Minutes Such That An Additional Single Failure Could Result in Station Blackout.

OPERATING MODE: 1, 2, 3, 4

4.5.A.2-1 The following condition exists:

AC power capability has been degraded to one essential bus powered from a single power source for > 15 min. due tc the loss of all but one of:

SATA
SATB
ATC
ATD
D/G A
D/G B.

END

SITE AREA EMERGENCY

4.5.S.2 Loss of All Vital DC Power.

OPERATING MODE: 1, 2, 3, 4

4.5.S.2-1 The following conditions exist:

Loss of both unit related EVDA and EVDD busses as indicated by bus voltage less than 110 VDC.

AND

Failure to restore power to at least one required DC bus within 15 minutes from the time of loss.

END

GENERAL EMERGENCY

At least one of the following conditions exist:

- Restoration of at least one essential bus within 4 hours is **NOT** likely
- Indication of continuing degradation of core cooling based on Fission Product Barrier monitoring.

END

UNUSUAL EVENT | **ALERT** | **SITE AREA EMERGENCY** | **GENERAL EMERGENCY**

4.5.U.2 Unplanned Loss of Required DC Power During Cold Shutdown or Refueling Mode for Greater than 15 Minutes.

OPERATING MODE: 5, 6

4.5.U.2-1 The following conditions exist:

Unplanned loss of both unit related EVDA and EVDD busses as indicated by bus voltage less than 110 VDC.

AND

Failure to restore power to at least one required DC bus within 15 minutes from the time of loss.

END

Fire/Explosion and Security Events

UNUSUAL EVENT

4.6.U.1 Fire Within Protected Area Boundary NOT Extinguished Within 15 Minutes of Detection OR Explosion Within the Protected Area Boundary.

OPERATING MODE: ALL

4.6.U.1-1 Fire in any of the following areas **NOT** extinguished within 15 minutes of control room notification or verification of a control room fire alarm.

- Reactor Building
- Auxiliary Building
- Diesel Generator Rooms
- Control Room
- Standby Shutdown Facility
- CAS
- SAS
- Doghouses
- FWST
- Turbine Building
- Service Building
- Interim Radwaste Building
- Equipment Staging Building
- ISFSI.

(Continued)

ALERT

4.6.A.1 Fire or Explosion Affecting the Operability of Plant Safety Systems Required to Establish or Maintain Safe Shutdown.

OPERATING MODE: 1, 2, 3, 4, 5, 6

4.6.A.1-1 The following conditions exist: Fire or explosion in any of the following areas:

- Reactor Building
- Auxiliary Building
- Diesel Generator Rooms
- Control Room
- Standby Shutdown Facility
- CAS
- SAS
- FWST
- Doghouses (Applies in Mode 1, 2, 3, 4 only).

AND

(Continued)

SITE AREA EMERGENCY

4.6.S.1 Security Event in a Plant Vital Area.

OPERATING MODE: ALL

4.6.S.1-1 Intrusion into any of the following plant areas by a hostile force:

- Reactor Building
- Auxiliary Building
- Diesel Generator Rooms
- Control Room
- Standby Shutdown Facility
- Doghouses
- CAS
- SAS.

4.6.S.1-2 Security confirmed bomb discovered/exploded in a vital area.

4.6.S.1-3 Security confirmed sabotage in a plant vital area.

END

GENERAL EMERGENCY

4.6.G.1 Security Event Resulting in Loss Of Ability to Reach and Maintain Cold Shutdown.

OPERATING MODE: ALL

4.6.G.1-1 Loss of physical control of the control room due to security event.

4.6.G.1-2 Loss of physical control of the Standby Shutdown Facility and Auxiliary Shutdown Panel due to security event.

END

Fire/Explosion and Security Events

UNUSUAL EVENT

4.6.U.1-2 Report by plant personnel of an unanticipated explosion within the protected area boundary resulting in visible damage to permanent structures or equipment or a loaded cask in the ISFSI.

4.6.U.2 Confirmed Security Event Which Indicates a Potential Degradation in the Level of Safety of the Plant or ISFSI.

OPERATING MODE: All

4.6.U.2-1 Security confirmed bomb device discovered within plant Protected Area including the ISFSI and outside Vital Areas.

4.6.U.2-2 Hostage situation/extortion.

4.6.U.2-3 A violent civil disturbance within the owner controlled area.

4.6.U.2-4 A credible terrorist threat as determined by Security.

END

ALERT

One of the following:

Note: Only one train of a system needs to be affected or damaged in order to satisfy this condition.

- Affected safety system parameter indications show degraded performance
- Plant personnel report visible damage to permanent structures or equipment within the specified area.

4.6.A.2 Fire or Explosion Affecting the Operability of Plant Safety Systems Required to Establish or Maintain Safe Shutdown.

OPERATING MODE: No Mode

4.6.A.2-1 The following conditions exist:

Fire or explosion in any of the following areas:
- Spent Fuel Pool
- Auxiliary Building.

AND

(Continued)

SITE AREA EMERGENCY

GENERAL EMERGENCY

Fire/Explosion and Security Events

UNUSUAL EVENT | **ALERT** | **SITE AREA EMERGENCY** | **GENERAL EMERGENCY**

One of the following:

Note: Only one train of a system needs to be affected or damaged in order to satisfy this condition.

- Spent Fuel Pool level and/or temperature show degraded performance

- Plant personnel report visible damage to permanent structures or equipment supporting Spent Fuel Pool Cooling.

4.6.A.3 Security Event in a Plant Protected Area.

OPERATING MODE: ALL

4.6.A.3-1 Intrusion into plant Protected Area by a hostile force.

END

Natural Disasters, Hazards, And Other Conditions Affecting Plant Safety

UNUSUAL EVENT

4.7.U.1 Natural and Destructive Phenomena Affecting the Protected Area.

OPERATING MODE: ALL

4.7.U.1-1 Tremor felt and valid alarm on the "strong motion accelerograph".

4.7.U.1-2 Tremor felt and valid alarm on the "Peak shock annunciator".

4.7.U.1-3 Report by plant personnel of tornado striking within protected area boundary/ISFSI.

4.7.U.1-4 Vehicle crash into plant structures or systems within protected area boundary/ISFSI.

4.7.U.1-5 Report of turbine failure resulting in casing penetration or damage to turbine or generator seals.

(Continued)

ALERT

4.7.A.1 Natural and Destructive Phenomena Affecting the Plant Vital Area.

OPERATING MODE: ALL

4.7.A.1-1 Valid "OBE Exceeded" Alarm on 1AD-13, E-7

4.7.A.1-2 Tornado or high winds:

Tornado striking plant structures within the vital area:

- Reactor Building
- Auxiliary Building
- FWST
- Diesel Generator Rooms
- Control Room
- Standby Shutdown Facility
- Doghouses
- CAS
- SAS.

OR

Sustained winds ≥ 60 mph for > 15 minutes.

(Continued)

SITE AREA EMERGENCY

4.7.S.1 Control Room Evacuation Has Been Initiated and Plant Control Cannot Be Established.

OPERATING MODE: ALL

4.7.S.1-1 The following conditions exist:

Control Room evacuation has been initiated per AP/1(2)/A/5500/017.

AND

Control of the plant cannot be established from the Auxiliary Shutdown Panel or the Standby Shutdown Facility within 15 minutes.

(Continued)

GENERAL EMERGENCY

4.7.G.1 Other Conditions Existing Which in the Judgement of the Emergency Coordinator/EOF Director Warrant Declaration of General Emergency.

OPERATING MODE: ALL

4.7.G.1-1 Other conditions exist which in the Judgement of the Emergency Coordinator/EOF Director indicate: (1) actual or imminent substantial core degradation with potential for loss of containment, or (2) potential for uncontrolled radionuclide releases. These releases can reasonably be expected to exceed Environmental Protection Agency Protective Action Guideline levels outside the site boundary.

END

Natural Disasters, Hazards, And Other Conditions Affecting Plant Safety

UNUSUAL EVENT

4.7.U.1-6 Independent Spent Fuel Cask tipped over or dropped greater than 12 inches.

4.7.U.1-7 Uncontrolled flooding in the ISFSI area.

4.7.U.1-8 Tornado generated missile(s) impacting the ISFSI.

4.7.U.2 Release of Toxic or Flammable Gases Deemed Detrimental to Safe Operation of the Plant.

OPERATING MODE: ALL

4.7.U.2-1 Report or detection of toxic or flammable gases that could enter within the site area boundary in amounts that can affect safe operation of the plant.

4.7.U.2-2 Report by Local, County or State Officials for potential evacuation of site personnel based on offsite event.

(Continued)

ALERT

4.7.A.1-3 Turbine failure generated missiles, vehicle crashes or other catastrophic events causing visible structural damage on any of the following plant structures:

- Reactor Building
- Auxiliary Building
- FWST
- Diesel Generator Rooms
- Control Room
- Standby Shutdown Facility
- Doghouses
- CAS
- SAS
- Ultimate heat sink

(Standby Nuclear Service Water Pond Dam and Dikes and Cowan's Ford Dam and associated Dikes).

(Continued)

SITE AREA EMERGENCY

4.7.S.2 Other Conditions Existing Which in the Judgement of the Emergency Coordinator/EOF Director Warrant Declaration of Site Area Emergency.

OPERATING MODE: ALL

4.7.S.2-1 Other conditions exist which in the Judgement of the Emergency Coordinator/EOF Director indicate actual or likely major failures of plant functions needed for protection of the public.

END

GENERAL EMERGENCY

Natural Disasters, Hazards, And Other Conditions Affecting Plant Safety

UNUSUAL EVENT

4.7.U.3 Other Conditions Existing Which in the Judgement of the Emergency Coordinator/EOF Director Warrant Declaration of an Unusual Event.

OPERATING MODE: ALL

4.7.U.3-1 Other conditions exist which in the judgement of the Emergency Coordinator/EOF Director indicate a potential degradation of the level of safety of the plant.

END

ALERT

4.7.A.2 Release of Toxic or Flammable Gases Within a Facility Structure Which Jeopardizes Operation of Systems Required to Maintain Safe Operations or to Establish or Maintain Cold Shutdown.

OPERATING MODE: ALL

Note: Structures for the below EALs:

- Reactor Building
- Auxiliary Building
- Diesel Generator Rooms
- Control Room
- Standby Shutdown Facility
- Doghouses
- CAS
- SAS.

4.7.A.2-1 Report or detection of toxic gases within a Facility Structure in concentrations that will be life threatening to plant personnel.

4.7.A.2-2 Report or detection of flammable gases within a Facility Structure in concentrations that will affect the safe operation of the plant.

(Continued)

SITE AREA EMERGENCY

GENERAL EMERGENCY

4.7.A.3 Control Room Evacuation Has Been Initiated.

OPERATING MODE: ALL

4.7.A.3-1 Control Room evacuation has been initiated per AP/1(2)/A/5500/017.

4.7.A.4 Other Conditions Existing Which in the Judgement of the Emergency Coordinator/EOF Director Warrant Declaration of an Alert.

OPERATING MODE: ALL

4.7.A.4-1 Other conditions exist which in the Judgement of the Emergency Coordinator/EOF Director indicate that plant safety systems may be degraded and that increased monitoring of plant functions is warranted.

END

ALERT- Events are in process 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 EPA Protective Action Guideline exposure levels.

ALL (As relates to Operating Mode Applicability) – At all times.

BOMB- A fused explosive device.

CIVIL DISTURBANCE - A group of ten (10) or more people violently protesting station operations or activities at the site. A civil disturbance is considered to be violent when force has been used in an attempt to injure site personnel or damage plant property.

CONFINEMENT BOUNDARY - The barrier(s) between areas containing radioactive substances and the environment.

EXPLOSION - A rapid, violent unconfined combustion, or a catastrophic failure of pressurized equipment that imparts energy of sufficient force to potentially damage permanent structures, systems or components.

EXTORTION - An attempt to cause an action at the site by threat of force.

FIRE - Combustion characterized by heat and light. Sources of smoke such as slipping drive belts or overheated electrical equipment do not constitute fires. Observation of flames is preferred but is NOT required if large quantities of smoke and heat are observed.

GENERAL EMERGENCY- Events are in process 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 Protective Action Guideline exposure levels offsite for more than the immediate site areas.

HOSTAGE - A person or object held as leverage against the site to ensure demands will be met by the site.

HOSTILE FORCE - One of more individuals present in a protected area without authorization that may have or have threatened to use force in an attempt to injure site personnel or damage plant property.

IMMINENT - Expected to occur within 1-3 hours.

INABILITY TO DIRECTLY MONITOR - Operational Aid Computer data points are unavailable or gauges/panel indications are not readily available to the operator.

INTRUSION/INTRUDER - Suspected hostile individual present in a protected area without authorization.

ISFSI - Independent Spent Fuel Storage Installation.

NO MODE - Defueled.

PROLONGED - a duration beyond normal limits, defined as "greater than 15 minutes" or as determined by the judgement of the Emergency Coordinator.

PROTECTED AREA - Encompasses all owner controlled areas within the security perimeter fence.

REACTOR COOLANT SYSTEM (RCS/NCS) LEAKAGE – RCS Operational Leakage as defined in the Technical Specification Basis B 3.4.13.

RUPTURED (As relates to Steam Generator) - Existence of primary to secondary leakage of a magnitude sufficient to require or cause a reactor trip and safety injection.

SABOTAGE - Deliberate damage, misalignment, or misoperation of plant equipment with the intent to render the equipment unavailable.

SECURITY EVENT - A security related emergency situation for which prompt response by the Security Force, immediate action by plant personnel, and/or assistance from offsite agencies may be required to apprehend intruders and mitigate the effects of or prevent radiological sabotage.

SIGNIFICANT TRANSIENT- An unplanned event involving one or more of the following: (l) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip, (4) Safety Injection.

SITE AREA EMERGENCY - Events are in process or have occurred which involve actual or likely major failures of plant functions 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 except near the site boundary.

SITE BOUNDARY - That area, including the protected area, in which Duke Power Company has the authority to control all activities, including exclusion or removal of personnel and property.

SLC - Selected Licensee Commitments.

SUSTAINED - A duration of time long enough to confirm that the CSF is valid (not momentary).

TOTAL EFFECTIVE DOSE EQUIVALENT (TEDE) - The sum of external dose exposure to a radioactive plume, to radionuclides deposited on the ground by the plume, and the internal exposure from inhaled radionuclides deposited in the body.

TOXIC GAS - A gas that is dangerous to life or health by reason of inhalation or skin contact (e.g. chlorine).

UNCONTROLLED - Event is not the result of planned actions by the plant staff.

UNPLANNED - An event or action is UNPLANNED if it is not the expected result of normal operations, testing, or maintenance. Events that result in corrective or mitigative actions being taken in accordance with abnormal or emergency procedures are UNPLANNED.

UNUSUAL EVENT- Events are in process 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 systems occurs.

VALID - An indication or report or condition is considered to be VALID when it is conclusively verified by: (l) an instrument channel check, or (2) indications on related or redundant instrumentation, or (3) by direct observation by plant personnel such that doubt related to the instrument's operability, the condition's existence or the report's accuracy is removed. Implicit in this definition is the need for timely assessment.

VIOLENT - Force has been used in an attempt to injure site personnel or damage plant property.

VISIBLE DAMAGE - Damage to equipment or structure that is readily observable without measurements, testing, or analyses. Damage is sufficient to cause concern regarding the continued operability or reliability of affected safety structure, system, or component. Example damage: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering.

VITAL AREA - Areas within the PROTECTED AREA that house equipment important for nuclear safety. Access to a VITAL AREA is allowed only if an individual has been authorized to be in that area.

THE FOLLOWING GUIDANCE IS TO BE USED BY THE EMERGENCY COORDINATOR IN ASSESSING EMERGENCY CONDITIONS.

- The Emergency Coordinator shall review all applicable initiating events to ensure proper classification.

- The BASIS Document (located in Section D of the McGuire Nuclear Site Emergency Plan) is available for review if any questions arise over proper classification.

- If an event occurs on more than one unit concurrently, the event with the higher classification will be classified on the emergency notification form. Information relating to the problem on the other unit will be captured on the emergency notification form.

- If an event occurs, and a lower or higher plant operating mode is reached before the classification can be made, the classification shall be based on the mode that existed at the time the event occurred.

- The fission product barrier matrix is applicable only to those events that occur at hot shutdown or higher. An event that is recognized at cold shutdown or lower shall not be classified using the fission product barrier matrix. Reference would be made to the additional enclosures that provide emergency action levels for specific events (e.g. severe weather, fire, security).

- If a transient event should occur, the following guidance is provided.

    1. Some emergency action levels specify a specific duration. For these EALs, the classification is made when the Emergency Coordinator assessment concludes that the specified duration is exceeded or will be exceeded (i.e. condition cannot be reasonably corrected before the duration elapses), whichever is sooner.

    2. If a plant condition exceeding EAL criteria is corrected before the specified duration time is exceeded, the event is NOT classified by that EAL. Lower Severity EALs, if any, shall be reviewed for possible applicability in these cases.

    3. If a plant condition exceeding EAL criteria is not recognized at the time of occurrence, but is identified well after the condition has occurred (e.g. as a result of routine log or record review) and the condition no longer exists, an emergency shall NOT be declared. Reporting under 10CFR50.72 may be required. Such a condition could occur, for example, if a follow-up evaluation of an abnormal condition uncovers evidence that the condition was more severe than earlier believed.

    4. If an emergency classification was warranted, but the plant condition has been corrected prior to declaration and notification, the Emergency Coordinator must consider the potential that the initiating condition (e.g. Failure of Reactor Protection System) may have caused plant damage that warrants augmenting the on-shift personnel via activation of the Emergency Response Organization. The following are applicable:

a. For UNUSUAL EVENTS, the condition shall be reported. The event may be terminated in the same notification or in a follow-up notification.

b. For ALERT, SITE AREA EMERGENCY, and GENERAL EMERGENCY, the event shall be declared and the emergency response organization activated.

DETERMINATION OF "EVENT TIME" (TIME THE 15 MINUTE OFFSITE NOTIFICATION CLOCK STARTS)

1. If plant conditions require implementation of EP/1 or 2/A/5000/E-0 (Reactor Trip or Safety Injection), increased emphasis shall be given to evaluation of plant conditions for determination of EAL(s) when "kickout" of the diagnostic procedure occurs. "Event Time" is the time at which the EAL(s) is determined to be valid by the Emergency Coordinator/EOF Director.

2. If plant conditions do not require implementation of EP/1 or 2/A/5000/E-0 (Reactor Trip or Safety Injection), and conditions of a specific EAL are met, the "Event Time" is the time at which the EAL(s) is determined to be valid by the Emergency Coordinator/EOF Director.

3. The time the event is classified shall be entered on the initial emergency notification form.

MOMENTARY ENTRY INTO A HIGHER CLASSIFICATION

If, while in an emergency classification, the specified EALs of a higher classification are met momentarily, and in the judgment of the Emergency Coordinator are not likely to recur, the entry into the higher classification must be acknowledged. Acknowledgment is performed as follows:

> If this condition occurs prior to the initial notification to the emergency response organization and off site agencies, the initial message should note that the site is currently in the lower classification, but had momentarily met the criteria for the higher classification. It should also be noted that plant conditions have improved and stabilized to the point that the criteria for the higher classification are not expected to be repeated.

Enclosure 4.10

Radiation Monitor Readings for Enclosure 4.3 EALs

Note: These values are not intended to apply to anticipated temporary increases due to planned events (e.g. incore detector movement, radwaste container movement, depleted resin transfers, etc.)

Detector	Elevation	Column	Identifier	Unusual Event mrad/hr	Alert mrad/hr
1EMF-1	695'	FF, GG-56	Aux. Bldg. Corridor	500	5000
1EMF-5	716'	FF-54	Unit 1 NM Sample Room	600	5000
1EMF-8	733'	HH-56	Aux. Bldg. Corridor	100	5000
1EMF-10	750'	LL-56	Aux. Bldg. Corridor	100	5000
1EMF-13	775'	QQ-56	Shift Lab/Count Room	100	5000
1EMF-17	786'	N/A	Unit 1 Spent Fuel Pool Refueling Bridge	100	5000
2EMF-1	716'	EE, FF-58	Unit 2 NM Sample Room	300	5000
2EMF-4	786'	N/A	Unit 2 Spent Fuel Pool Refueling Bridge	100	5000
2EMF-9	767'	JJ-59	Aux. Bldg. Corridor	100	5000

Enclosure 4.11

Commitment Reference for Emergency Action Levels

{1} PIP-M-00-2138, CA # 18