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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 revised Emergency Plan Implementing Procedures. These procedure changes were evaluated pursuant to the requirements of 10 CFR 50.54 (g). These changes do 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. As such, these changes do not require NRC approval prior to implementation. Revision bars in the procedure indicate the procedure changes. The following index and procedure changes have been implemented:

EPIP Index Page 1
EPIP Index Page 2
EPIP Index Page 3
RP/0/A/5700/000
RP/0/A/5700/026
PT/0/A/4600/088

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 Steve Mooneyhan at (704) 875-4646.

Very truly yours,

H. B. Barron
Vice President, McGuire Nuclear Station
Duke Energy Corporation

HBB:jcm

Attachments

A045

U.S. Nuclear Regulatory Commission
December 05, 2000
Page 2

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/o attachment)
NRC Resident Inspector

Frank Rinaldi, USNRC

Jeff Thomas (EC050)

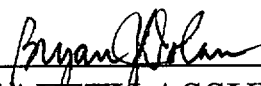
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EP File 111

DUKE

McGUIRE NUCLEAR SITE

EMERGENCY PLAN IMPLEMENTING PROCEDURES

APPROVED: 
SAFETY ASSURANCE MANAGER

DATE APPROVED 11/28/00

EPIP Index Page 1	Dated	11/28/2000
EPIP Index Page 2	Dated	11/28/2000
EPIP Index Page 3	Dated	11/28/2000
RP/0/A/5700/000	Dated	11/28/2000
RP/0/A/5700/026	Dated	11/28/2000
PT/0/A/4600/088	Dated	11/3/1999

EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

<u>PROCEDURE #</u>	<u>TITLE</u>	<u>REVISION NUMBER</u>
RP/0/A/5700/000	Classification of Emergency	Rev. 006
RP/0/A/5700/001	Notification of Unusual Event	Rev. 014
RP/0/A/5700/002	Alert	Rev. 014
RP/0/A/5700/003	Site Area Emergency	Rev. 014
RP/0/A/5700/004	General Emergency	Rev. 014
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. 007
RP/0/A/5700/007	Earthquake	Rev. 006
RP/0/A/5700/008	Release of Toxic or Flammable Gases	Rev. 003
RP/0/A/5700/09	Collisions/Explosions	Rev. 000
RP/0/A/5700/010	NRC Immediate Notification Requirements	Rev. 011
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. 018
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. 007
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. 001
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. 001
OP/0/B/6200/090	PALSS Operation for Accident Sampling	Rev. 010

EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

<u>PROCEDURE #</u>	<u>TITLE</u>	<u>REVISION NUMBER</u>
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. 005
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. 001
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. 002
SR/0/B/2000/002	Standard Procedure for EOF Commodities and Facilities	Rev. 001
SR/0/B/2000/003	Activation of the Emergency Operations Facility	Rev. 006
SR/0/B/2000/004	Notification to States and Counties from the Emergency Operations Facility	Rev. 001

EMERGENCY PLAN IMPLEMENTING PROCEDURES INDEX

<u>PROCEDURE #</u>	<u>TITLE</u>	<u>REVISION NUMBER</u>
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

Duke Power Company

PROCEDURE PROCESS RECORD

(1) ID No. RP/0/A/5700/000Revision No. 006**PREPARATION**(2) Station McGuire Nuclear Station(3) Procedure Title Classification of Emergency(4) Prepared By Alan L. Beaver Date 11/13/00

(5) Requires 10CFR50.59 evaluation?

☒ Yes (New procedure or revision with major changes)☐ No (Revision with minor changes)☐ No (To incorporate previously approved changes)(6) Reviewed By John A. [Signature] (QR) Date 11/15/00Cross-Disciplinary Review By Thad [Signature] (QR) NA Date 11-20-00Reactivity Mgmt. Review By [Signature] (QR) NA Date 11/15/00

(7) Additional Reviews

Reviewed By _____ Date _____

Reviewed By _____ Date _____

(8) Temporary Approval (if necessary)

By _____ (SRO/QR) Date _____

By _____ (QR) Date _____

(9) Approved By [Signature] Date 11/28/2000**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 ☐ N/A Check lists and/or blanks initialed, signed, dated or filled in NA, as appropriate?☐ Yes ☐ N/A Listed enclosures attached?☐ Yes ☐ N/A Data sheets attached, completed, dated and signed?☐ Yes ☐ N/A Charts, graphs, etc. attached, dated, identified, and marked?☐ Yes ☐ N/A 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 Multiple Use	Procedure No. RP/0/A/5700/000
	Revision No. 006
	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}

<u>Unusual Event (1 - 3 Points)</u>		<u>Alert (4 - 6 Points)</u>	<u>Site Area Emergency (7 - 10 Points)</u>	<u>General Emergency (11 - 13 Points)</u>
• 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.

Containment	_____	<u>TOTAL POINTS</u>	
NCS	_____	1 - 3	Unusual Event
Fuel Clad	_____	4 - 6	Alert
		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 μ Ci/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)
-------------------------------	-------------------

4.1.N NCS BARRIER

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

4.1.F FUEL CLAD BARRIER

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

5. Significant Radioactive Inventory In Containment

- | | |
|---|---|
| <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> Not applicable. |
|---|---|

6. Core Cooling

- | | |
|--|---|
| <ul style="list-style-type: none"> Core cooling - RED path is indicated for >15 min. | <ul style="list-style-type: none"> Not applicable. |
|--|---|

CONTINUED**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

Fission Product Barrier Matrix

4.1.C CONTAINMENT BARRIER

POTENTIAL LOSS - (1 Point)	LOSS - (3 Points)
-------------------------------	-------------------

4.1.N NCS BARRIER

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

4.1.F FUEL CLAD BARRIER

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

RP/0/A/5700/000
Page 1 of 2

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

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

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

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

END

Enclosure 4.2
System Malfunctions

RP/0/A/5700/000
Page 2 of 2

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

RP/0/A/5700/000

Page 1 of 5

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

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 $\geq 5.45E+06$ 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)

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 $\geq 1.56E+03$ 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)

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)

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)

Enclosure 4.3

Abnormal Rad Levels/Radiological Effluent

RP/0/A/5700/000

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<u>UNUSUAL EVENT</u>	<u>ALERT</u>	<u>SITE AREA EMERGENCY</u>	<u>GENERAL EMERGENCY</u>
4.3.U.1-2 A valid indication on radiation monitor EMF- 36L of $\geq 3.00E+04$ 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.A.1-2 A valid indication on radiation monitor EMF- 36L of $\geq 3.00E+06$ 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.	Note 2: If dose assessment team calculations cannot be completed in 15 minutes, then valid monitor reading should be used for emergency classification.	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.U.1-3 A valid indication on radiation monitor EMF-31 (when aligned to WC or WWCB) of $\geq 9.174 E+03$ 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.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.S.1-1 A valid indication on radiation monitor EMF-36H of $\geq 2.81 E + 03$ cpm sustained for ≥ 15 minutes.	4.3.G.1-1 A valid indication on radiation monitor EMF-36H of $\geq 2.81 E + 04$ cpm sustained for ≥ 15 minutes.
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.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.	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.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.U.1-5 Liquid effluent being released exceeds two times SLC 16.11-1 for ≥ 60 minutes as determined by Radiation Protection (RP) procedure.		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.	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.

(Continued)

END

END

Enclosure 4.3

Abnormal Rad Levels/Radiological Effluent

RP/0/A/5700/000

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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.

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

Enclosure 4.3

Abnormal Rad Levels/Radiological Effluent

RP/0/A/5700/000

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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)

Enclosure 4.3

Abnormal Rad Levels/Radiological Effluent

RP/0/A/5700/000

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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

RP/0/A/5700/000

Page 1 of 3

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

Enclosure 4.4

Loss of Shutdown Functions

RP/0/A/5700/000

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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

Enclosure 4.4
Loss of Shutdown Functions

RP/0/A/5700/000
Page 3 of 3

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

Enclosure 4.5

Loss of Power

RP/0/A/5700/000

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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)

Enclosure 4.5

Loss of Power

RP/0/A/5700/000

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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 to 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

Enclosure 4.5

Loss of Power

RP/0/A/5700/000

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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

Enclosure 4.6

Fire/Explosion and Security Events

RP/0/A/5700/000

Page 1 of 3

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.

(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

Enclosure 4.6

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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.

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

OPERATING MODE: All

4.6.U.2-1 Security confirmed bomb device discovered within plant Protected Area 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.

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

Enclosure 4.6

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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

Enclosure 4.7

Natural Disasters, Hazards, And Other Conditions Affecting Plant Safety

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<u>UNUSUAL EVENT</u>	<u>ALERT</u>	<u>SITE AREA EMERGENCY</u>	<u>GENERAL EMERGENCY</u>
4.7.U.1 Natural and Destructive Phenomena Affecting the Protected Area.	4.7.A.1 Natural and Destructive Phenomena Affecting the Plant Vital Area.	4.7.S.1 Control Room Evacuation Has Been Initiated and Plant Control Cannot Be Established.	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	OPERATING MODE: ALL	OPERATING MODE: ALL	OPERATING MODE: ALL
4.7.U.1-1 Tremor felt and valid alarm on the "strong motion accelerometer".	4.7.A.1-1 Valid "OBE Exceeded" Alarm on 1AD-13, E-7	4.7.S.1-1 The following conditions exist:	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.
4.7.U.1-2 Tremor felt and valid alarm on the "Peak shock annunciator".	4.7.A.1-2 Tornado or high winds: Tornado striking plant structures within the vital area:	Control Room evacuation has been initiated per AP/1(2)/A/5500/017.	
4.7.U.1-3 Report by plant personnel of tornado striking within protected area boundary.	• Reactor Building • Auxiliary Building • FWST • Diesel Generator Rooms • Control Room • Standby Shutdown Facility • Doghouses • CAS • SAS.	<u>AND</u> Control of the plant cannot be established from the Auxiliary Shutdown Panel or the Standby Shutdown Facility within 15 minutes.	
4.7.U.1-4 Vehicle crash into plant structures or systems within protected area boundary.		<u>(Continued)</u>	
4.7.U.1-5 Report of turbine failure resulting in casing penetration or damage to turbine or generator seals.			
<u>(Continued)</u>	<u>OR</u> Sustained winds $\geq$ 60 mph for > 15 minutes. <u>(Continued)</u>		<u>END</u>

Enclosure 4.7

Natural Disasters, Hazards, And Other Conditions Affecting Plant Safety

RP/0/A/5700/000

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UNUSUAL EVENT

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

Enclosure 4.7

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Natural Disasters, Hazards, And Other Conditions Affecting Plant Safety

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

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

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

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.

OPERATING MODE: ALL

Note: Structures for the below EALs:

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

END

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)

Enclosure 4.7

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Natural Disasters, Hazards, And Other Conditions Affecting Plant Safety

UNUSUAL EVENT

ALERT

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

Definitions/Acronyms

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.

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.

Enclosure 4.8
Definitions/Acronyms

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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: (1) 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.

Definitions/Acronyms

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: (1) 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.

Enclosure 4.9
Emergency Declaration Guidelines

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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:

Emergency Declaration Guidelines

- 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**

RP/0/A/5700/000

Page 1 of 1

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

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

1

Duke Power Company PROCEDURE PROCESS RECORD

(1) ID No. RP/0/A/5700/026Revision No. 002**PREPARATION**(2) Station McGuire Nuclear Station(3) Procedure Title Operations/Engineering Technical Evaluations in the Technical Support Center (TSC)(4) Prepared By Jan R. Painter Date 9/28/00

(5) Requires 10CFR50.59 evaluation?

☒ Yes (New procedure or revision with major changes)☐ No (Revision with minor changes)☐ No (To incorporate previously approved changes)(6) Reviewed By Grant J. Carter (QR) Date 10/24/00Cross-Disciplinary Review By GJC (QR) NA Date 10/24/00Reactivity Mgmt. Review By GJC (QR) NA Date 10/24/00

(7) Additional Reviews

Reviewed By S. Hackett Date 11/15/00Reviewed By J. S. [Signature] Date 11/20/2000

(8) Temporary Approval (if necessary)

By _____ (SRO/QR) Date _____

By _____ (QR) Date _____

(9) Approved By Bryan Nolan Date 11/28/00**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 ☐ N/A Check lists and/or blanks initialed, signed, dated or filled in NA, as appropriate?☐ Yes ☐ N/A Listed enclosures attached?☐ Yes ☐ N/A Data sheets attached, completed, dated and signed?☐ Yes ☐ N/A Charts, graphs, etc. attached, dated, identified, and marked?☐ Yes ☐ N/A Procedure requirements met?

Verified By _____ Date _____

(13) Procedure Completion Approved _____ Date _____

(14) Remarks (attach additional pages, if necessary)

Duke Power Company McGuire Nuclear Station Operations/Engineering Technical Evaluations in the Technical Support Center (TSC) Multiple Use	Procedure No.
	RP/0/A/5700/026
	Revision No. 002
	Electronic Reference No. MP0070NJ

NOTE: Any technical changes to this procedure will be performed by the appropriate Operations or Engineering personnel. Operations or Engineering personnel will complete the required 10CFR50.59 reviews/signatures and then submit the procedure change to Emergency Planning personnel for an "Additional Review" and overall "Approval" of the Procedure Process Record. The "Additional Review" by Emergency Planning will be focused on verification that any steps providing instructions to the Control Room include references to valid OPS procedures.

Operations/Engineering Technical Evaluations in the Technical Support Center (TSC)

1. Symptoms

This procedure will normally be performed by Operations Procedure Support and System Engineering Manager positions in the Technical Support Center (TSC) to provide for the technical evaluation of the appropriate plant equipment and/or plant parameters. The exact plant equipment and/or plant parameters to be monitored will be determined by the Operations Procedure Support and System Engineering Manager positions based on the existing and potential plant status. RP/0/A/5700/012 [Activation of the Technical Support Center (TSC)] activation checklist will direct Operations and Engineering personnel to obtain this procedure as the TSC is being staffed.

2. Immediate Actions

None

3. Subsequent Actions

NOTE: This procedure is not intended to be followed in a step-by step sequence. Sections of the procedure are to be implemented as the applicable action becomes necessary.

- 3.1 Operations and Engineering personnel will review the current plant status and begin evaluation of the various plant equipment/parameters as directed in Enclosures 4.1 (Operations Procedure Support Technical Evaluation Checklist) and 4.2 (System Engineering Manager Technical Evaluation Checklist).
- 3.2 Each represented group is responsible for ensuring their appropriate checklist are completed (Enclosures 4.1 and 4.2)

4. Enclosures

- 4.1 Operations Procedure Support Technical Evaluation Checklist
- 4.2 System Engineering Manager Technical Evaluation Checklist

OPERATIONS PROCEDURE SUPPORT
TECHNICAL EVALUSTION CHECKLIST

NOTE: If needed during drills or real events, up to date VTO flow diagrams are maintained in the Work Control Center (WCC). {PIP-M-99-05381}.

—— **PERFORM** the following if NS actuates during this event {PIPs 0-M93-807, 0-M97-397}

1. During NS pump operation in recirculation, monitor Sump Level and confirm corresponding containment pressure decay. **IF** corresponding containment pressure decay is not observed and/or sump level decreases are evidenced, **THEN** NS piping leakage may be present in the annulus. Assess need to secure affected train and rely on remaining NS train and/or ND spray capability.
2. **WHEN** CPCS interlock is met AND continued NS capability is required during the event, **THEN** ensure NS pump is run AT LEAST once per 12 hours. Pump should be run long enough to establish NS flow and refill NS header. DO NOT run NS longer than required, especially if suction is still on FWST (to prevent swap to cold leg recirc). Refer to OP/1(2)/A/6200/07 (Containment Spray System).
3. **WHEN** CPCS is controlling operation of the NS pumps **AND** both trains of NS are no longer required, **THEN** secure one NS train to minimize pump cycling and the potential for water hammer as follows:
 - a. Reset Containment Spray on train to be secured.
 - b. Stop one train NS Pump.
 - c. Close NS Pump discharge isolation valves on secured train.
 - d. **IF** NS System capability is still required, **THEN** ensure secured train is run at least once per 12 hours **PER** Step 2 above.
4. **WHEN** no longer running NS Pump(s) every 12 hours, **THEN** perform the following within 12 hours of last NS Pump run:
 - a. Tagout NS Pumps to prevent NS operation.
 - b. Do not clear NS Pump tags until NS headers drained.
 - c. **WHEN** conditions allow, **THEN** drain NS header(s) on secured NS train(s). Refer to OP/1(2)/A/6200/07, Containment Spray System.

OPERATIONS PROCEDURE SUPPORT
TECHNICAL EVALUATION CHECKLIST

_____ **PERFORM** the following if a faulted S/G outside containment exists: {DW - 93 -024}

1. Request RP to monitor area of steam release to atmosphere for radiation and to notify TSC of any abnormal radiation condition
2. **IF** abnormal radiation exists on faulted S/G. **THEN** evaluate potential rupture on S/G using:
 - NC inventory control
 - Faulted S/G level and pressure.

_____ **PERFORM** the following to turn off H2 Igniters when desired. {PIP-0-M97-0222}

1. Determine if adequate core cooling has existed for this entire event.
2. **IF** adequate core cooling has existed for this entire event, **THEN**:
WHEN containment pressure is less than .25 PSIG, **THEN** turn H2 Igniters off.
3. **IF** inadequate core cooling has existed during this event, **THEN** turn H2 Igniters off 24 hours after adequate core cooling has been established.

OPERATIONS PROCEDURE SUPPORT
TECHNICAL EVALUSTION CHECKLIST

_____ **IF** the OAC is not available, **AND** the event involves LOCA inside containment THEN monitor ND or NS system as follows:

- NOTE:**
- When ND & NS sump pumps are in "auto" the pumps start in the following order as sump level rises: 1A, 1B, 2A, 2B. Each pump has approximately 120 gpm capacity, but combined flow is as follows:
 - 1 pump - 120 gpm
 - 2 pumps - 126 gpm
 - 3 pumps - 130 gpm
 - 4 pumps - 132 gpm
 - Annunciators for Hi Hi ND/NS sump level come in when level reaches the setpoint to start 1B (1AD13-C1) and 2B (2AD13-C1) ND/NS Sump pumps. With the above suggested pump control configuration, when the sump level rises to cause the 1B ND & NS pump to start, an annunciator alarm will come in. Inputs to the ND & NS sump must exceed the capacity of two (2) ND & NS Sump pumps before the second annunciator alarm is received.
 - The control room ND & NS Pump room level indicator indicates level above the top of sump.
 - Selecting "REMOTE" on ND & NS pump control switches gives control room indication and control. This also removes indication and control from Radwaste Chemistry and prevents Chemistry's local pump run timers from working.
 - Normal inputs to ND & NS sump will cause 1 sump pump to operate approximately 10 minutes every 1 to 4 days.

- a. Notify the control room to perform the following allow control room monitoring and control over ND & NS sump pump operation:
 1. Select "AUTO" on ND & NS Sump Pumps:
 - 1B
 - 2A
 - 2B.
 2. Select "REMOTE" on "A&B ND & NS ROOM SUMP PUMPS" switches on:
 - Unit 1
 - Unit 2.

OPERATIONS PROCEDURE SUPPORT
TECHNICAL EVALUSTION CHECKLIST

3. Select "MANUAL" and "OFF" on 1A ND & NS Sump pump. This will ensure that an annunciator alarm is received when the first ND & NS Sump pump is started (1B ND & NS Sump pump).
- b. Have control room monitor frequency of frequency of ND & NS Sump pump operation on both units and notify TSC:
 - When pumps run
 - How long they run.
- c. Notify control room that 1A ND/NS Sump pump may be started if other sump pumps cannot maintain sump level.
- d. Request the control room to periodically check (every 30 to 60 minutes) ND & NS Pump room level indication on C/R instrument OWLP-5950. {PIP-0-M-99-106}

IF event involves a LOCA inside containment, OR any event that may result in radioactive water leakage in the aux bldg THEN perform the following:

NOTE: The FDT pumps may be aligned to pump through the processing demineralizers to the Waste Monitor Tanks (normal alignment) or aligned to the Aux FDT or Aux WEFT in the Interim Radwaste Facility.

1. Contact Radwaste Chemistry to determine status and alignment of Floor drain Tank pumps.
2. IF FDT pumps aligned to Aux FDT or Aux WEFT in the Interim Radwaste Facility (IRF), THEN:
 - Ensure tank levels are periodically monitored by Radwaste Chemistry (716' liquid waste panel, APD, or locally in the IRF)
 - Evaluate potential for release of radioactive water outside the Aux Bldg..
3. IF OAC is available, THEN periodically monitor Floor Drain Tank level. {PIP-0-M-99-104}

OPERATIONS PROCEDURE SUPPORT
TECHNICAL EVALUSTION CHECKLIST

- NOTE:**
- If seal return containment isolation valves are closed, seal return will go to PRT.
 - Closing seal return containment isolation valves if NCDT pressure approaches VCT pressure prevents back flow through NC pump #2 and 3 seals. {PIP M95-1902}
 - NCDT relief pressure is 100 psig.

- CAUTION:**
- If excess letdown is in service, it must be aligned to NCDT prior to closing seal return containment isolation valves.
 - Closing seal return containment isolation valves will reduce NC pump seal DP by approximately 100 psid.
 - An evaluation must be done prior to pumping high activity water outside containment.

—— **IF** normal NCDT cooling and release has been lost (LOOP, SI, Loss of VI), **THEN** monitor NCDT temperature and pressure:

- **IF** NCDT pressure is approaching VCT pressure, **THEN** evaluate making recommendation to close and maintain closed the seal return containment isolation valves 1(2)NV-94AC and 95B), or to reduce NCDT pressure. If NCDT pressure is greater than or equal to VCT pressure, and NV-94AC or 95B is closed, place info tag on valves to contact TSC prior to opening.
- **IF** NCDT pumps are running without KC cooling water (SI or Loss VI) for an extended period of time, and NCDT temperature is approaching 200°F, **THEN** evaluate stopping NCDT pumps prior to flashing KC water in NCDT Hx, or exceeding NCDT piping design temperatures. (Ref MCFD 1(2)565-01.01 and 1(2)573-03.01).

OPERATIONS PROCEDURE SUPPORT
TECHNICAL EVALUATION CHECKLIST

_____ **IF** all the following conditions exist 24 hours after initiation of the event:

- LOCA has occurred resulting in NS actuation
- Loss of Offsite power has occurred on either unit
- Any KF train running with heat load aligned to SNSWP (via KF to KC to RN),

THEN perform the following:

- Monitor SNSWP temperature once per 6 hours.
- **IF** SNSWP temperature reaches 90 degrees, **THEN** evaluate performing the following:
 1. Secure any KF train with its heat load aligned to SNSWP (via KF to KC to RN).
 2. **IF** available, **THEN** align KF heat load to LLI (via KF to KC to RN),
 3. **IF** KF cooling secured, **THEN** check SFP level every 6 hours and periodically makeup to SFP as necessary to compensate for boil-off per OP/1&2/A/6200/005 (Spent Fuel Cooling System), Enclosure 4.4 (Spent Fuel Pool Level Control). {PIP-M-99-4699}.

OPERATIONS PROCEDURE SUPPORT
TECHNICAL EVALUATION CHECKLIST

—— **PERFORM** the following if a loss of off-site power has occurred during this event:
{PIP 0-M95-2052}

1. **IF** off-site power cannot be restored for at least 48 hours from when loss of off-site power occurred, **THEN** perform the following to align power to IPB fans prior to power restoration:
 - a. Notify the Control room that IPB fan cooling is required to dry out ductwork prior to power restoration to associated unit's busses.

NOTE: Time to complete these actions will depend upon availability of alternate power sources.

- b. Verify retail power is available (by measuring voltage) at either Unit 1 Retail Power Panel (located in front of Warehouse #1) or Unit 2 Retail Power Panel (located near Unit 2 turbine building roll-up door). Voltage of approximately 600 VAC should be observed.
- c. **IF** voltage is not present at either retail power panel, **THEN** arrangements to have portable (rental or other means) generator brought on site needs to be made. The portable generator should be sized to be able to run a 150 HP motor rated at 575, 3 phase, 60 Hz VAC with 140 FLA and 870 LRA.
- d. From retail panel or portable power source, run 3/c 2/0 cable or larger, to applicable MCC (1MXG for 1A, 1MXH for 1B, 2MXG for 2A and 2MXH for 2B) for fan to be used. Use site engineering criteria or NEC for alternate cable based upon availability and actual cable length based upon location of power source.
- e. **WHEN** power is aligned to IPB fan, **THEN** dispatch operator to start fan **PER** OP/1/B/6300/10 **OR** OP/2/B/6300/10 (Generator Isolated Phase Bus Cooling), Enclosure 4.4 (Isolated Phase Bus Cooling system Operation in Once-Through Cooling Mode) for a minimum of 2 hours prior to re-energizing buslines to ensure moisture has been removed from IPB ductwork.

OPERATIONS PROCEDURE SUPPORT
TECHNICAL EVALUTION CHECKLIST

- _____ **WITHIN** 10 hours of SI initiation, and prior to the onset of Spent Fuel Pool boiling, evaluate restoring SFP cooling **PER** AP/1(2)/A/5500/041 (Loss Of Spent Fuel Pool Cooling Or Level). {PIP 0-M96-3040}
- _____ **PERFORM** the following if a S/G PORV isolation valve was required to be closed to isolate a failed open or leaking S/G PORV {PIP 0-M98-1325}:

NOTE: As affected S/G pressure drops, the S/G PORV isolation valve may start leaking. This may be a concern if the S/G is ruptured.
--

- 1 . Locally monitor affected S/G PORV line for leakage while depressurizing associated S/G.
 2. **IF** S/G PORV starts leaking again, **THEN** dispatch operator to close PORV isolation valve further.
- _____ As S/Gs are depressurized, ensure CA control valves for idle CA pumps are also throttled as required to prevent CA suction sources from overfilling S/Gs (due to gravity feed).
- _____ **IF AT ANY TIME** containment radiation read on EMF - 51A or B ever reaches 10 E5 R/hr, **THEN** notify control room to ensure abnormal containment condition (ACC) setpoints are used in the emergency procedures. {DW - 93-27} (This criteria is used in addition to reaching 3 PSIG in containment. Note that for design basis events, using just the 3 PSIG containment pressure criteria is adequate for determining when ACC setpoints must be used. For some beyond basis LOCAs outside containment, high containment radiation may be reached hours into the event, without reaching 3 PSIG in containment).
- _____ **IF AT ANY TIME** Emergency Coolant Recirc is established and subsequently lost, **THEN REFER TO** EP/1(2)/A/5000/ECA-1.1 (Loss Of Emergency Coolant Recirc) for guidance to maintain core cooling {DW - 93-39 & DW - 96 -16}

OPERATIONS PROCEDURE SUPPORT
TECHNICAL EVALUSTION CHECKLIST

NOTE: EP/1/(2)/A/5000/E-1 (Loss of Reactor Secondary Coolant) addresses transferring to Hot Leg Recirc requirements during a large break LOCA. This step Is needed to evaluate Hot Leg Recirc requirements if other EPs (besides E-1) are in effect.

- _____ **IF AT ANY TIME** all of the following conditions exist, **THEN** evaluate the need to perform steps to transfer to Hot Leg Recirc at times greater than or equal to times specified in EP/1/(2)/A/5000/E-1 (Loss of Reactor or Secondary Coolant). {DW-97-2}
- LOCA inside containment.
AND
 - Transfer to Cold Leg Recirc had been completed.
AND
 - EP/1/(2)A/5000/E-1 (Loss of Reactor or Secondary Coolant) is NOT in effect.
AND
 - NC subcooling based on core exit thermocouples is less than 0°.

_____ **PROVIDE** completed paperwork to Emergency Planning upon deactivation of the Emergency facility.

SYSTEM ENGINEERING MANAGER
TECHNICAL EVALUATION CHECKLIST

NOTE: If needed during drills or real events, up to date VTO flow diagrams are maintained in the Work Control Center (WCC). {PIP-M-99-05381}.

- **MONITOR** RN/KC heat exchanger differential pressure and schedule a heat exchanger superflush (per the RN System Operating Procedure OP/1/A/6400/06, Enclosure 4.9 or OP/2/A/6400/06, Enclosure 4.9) if the five minute average corrected differential pressure(P1222 or P1223) exceeds 9.0 psid on a continuous basis. Differential pressure readings should be taken on the following schedule:{PIP 0-M94-1429}

First reading: As soon as possible after TSC activation

Subsequent readings: dp 0 - 8 psid, every 2 hours
dp 8.1 - 8.9 psid, every 30 minutes

- **PERFORM** the following if NS actuates during this event {PIPs 0-M93-807, 0-M97-397}

1. During NS pump operation in recirculation, monitor Sump Level and confirm corresponding containment pressure decay. **IF** corresponding containment pressure decay is not observed and/or sump level decreases are evidenced, **THEN** NS piping leakage may be present in the annulus. Assess need to secure affected train and rely on remaining NS train and/or ND spray capability.
2. **WHEN** CPCS interlock is met AND continued NS capability is required during the event, **THEN** ensure NS pump is run AT LEAST once per 12 hours. Pump should be run long enough to establish NS flow and refill NS header. DO NOT run NS longer than required, especially if suction is still on FWST (to prevent swap to cold leg recirc). Refer to OP/1(2)/A/6200/07 (Containment Spray System).
3. **WHEN** CPCS is controlling operation of the NS pumps **AND** both trains of NS are no longer required, **THEN** secure one NS train to minimize pump cycling and the potential for water hammer as follows:
 - a. Reset Containment Spray on train to be secured.
 - b. Stop one train NS Pump.
 - c. Close NS Pump discharge isolation valves on secured train.
 - d. **IF** NS System capability is still required, **THEN** ensure secured train is run at least once per 12 hours **PER** Step 2 above.

SYSTEM ENGINEERING MANAGER
TECHNICAL EVALUATION CHECKLIST

4. **WHEN** no longer running NS Pump(s) every 12 hours, **THEN** perform the following within 12 hours of last NS Pump run:
- a. Tagout NS Pumps to prevent NS operation.
 - b. Do not clear NS Pump tags until NS headers drained.
 - c. **WHEN** conditions allow, **THEN** drain NS header(s) on secured NS train(s). Refer to OP/1(2)/A/6200/07, Containment Spray System.

—— Actions TSC System Engineering Manager must take following an ESF actuation and automatic alignment of RN Train B to the Stanby Nuclear Service Water Pond{PIP-0-M-00281}:

- 1. **IF** the operating YC Chiller is **NOT** supplied service water from the SNSWP, **THEN** no action is required.
- 2. **IF** the operating YC Chiller is supplied service water from the SNSWP, **THEN** monitor SNSWP temperature to ensure the supply temperature is less than or equal to 84 degrees F. Monitoring should begin at approximately 100 hours from the initiation of the ESF actuation and continue every 24 hours as long as the YC Chiller is supplied cooling water from the SNSWP.
- 3. **IF** SNSWP temperature is greater then 84 degrees F, **THEN** recommend that the operating RN Train should be aligned to Lake Norman (following the reset of the ESF signals) to ensure proper operation of the YC Chillers.

SYSTEM ENGINEERING MANAGER
TECHNICAL EVALUATION CHECKLIST

_____ **IF** all the following conditions exist 24 hours after initiation of the event:

- LOCA has occurred resulting in NS actuation
- Loss of Offsite power has occurred on either unit
- Any KF train running with heat load aligned to SNSWP (via KF to KC to RN),

THEN perform the following:

- Monitor SNSWP temperature once per 6 hours.
- **IF** SNSWP temperature reaches 90 degrees, **THEN** evaluate performing the following:
 1. Secure any KF train with its heat load aligned to SNSWP (via KF to KC to RN).
 2. **IF** available, **THEN** align KF heat load to LLI (via KF to KC to RN),
 3. **IF** KF cooling secured, **THEN** check SFP level every 6 hours and periodically makeup to SFP as necessary to compensate for boil-off per OP/1&2/A/6200/005 (Spent Fuel Cooling System), Enclosure 4.4 (Spent Fuel Pool Level Control)." {PIP-M-99-4699}.

_____ **PERFORM** the following to turn off H2 Igniters when desired. {PIP-0-M97-0222}

1. Determine if adequate core cooling has existed for this entire event.
2. **IF** adequate core cooling has existed for this entire event, **THEN**:
WHEN containment pressure is less than .25 PSIG, **THEN** turn H2 Igniters off.
3. **IF** inadequate core cooling has existed during this event, **THEN** turn H2 Igniters off 24 hours after adequate core cooling has been established.

SYSTEM ENGINEERING MANAGER
TECHNICAL EVALUATION CHECKLIST

IF the OAC is not available, AND the event involves LOCA inside containment THEN monitor ND or NS system as follows:

- NOTE:**
- When ND & NS sump pumps are in "auto" the pumps start in the following order as sump level rises: 1A, 1B, 2A, 2B. Each pump has approximately 120 gpm capacity, but combined flow is as follows:
 - 1 pump - 120 gpm
 - 2 pumps - 126 gpm
 - 3 pumps - 130 gpm
 - 4 pumps - 132 gpm
 - Annunciators for Hi Hi ND/NS sump level come in when level reaches the setpoint to start 1B (1AD13-C1) and 2B (2AD13-C1) ND/NS Sump pumps. With the above suggested pump control configuration, when the sump level rises to cause the 1B ND & NS pump to start, an annunciator alarm will come in. Inputs to the ND & NS sump must exceed the capacity of two (2) ND & NS Sump pumps before the second annunciator alarm is received.
 - The control room ND & NS Pump room level indicator indicates level above the top of sump.
 - Selecting "REMOTE" on ND & NS pump control switches gives control room indication and control. This also removes indication and control from Radwaste Chemistry and prevents Chemistry's local pump run timers from working.
 - Normal inputs to ND & NS sump will cause 1 sump pump to operate approximately 10 minutes every 1 to 4 days.

- a. Notify the control room to perform the following allow control room monitoring and control over ND & NS sump pump operation:
 1. Select "AUTO" on ND & NS Sump Pumps:
 - 1B
 - 2A
 - 2B.
 2. Select "REMOTE" on "A&B ND & NS ROOM SUMP PUMPS" switches on:
 - Unit 1
 - Unit 2.

SYSTEM ENGINEERING MANAGER
TECHNICAL EVALUATION CHECKLIST

3. Select "MANUAL" and "OFF" on 1A ND & NS Sump pump. This will ensure that an annunciator alarm is received when the first ND & NS Sump pump is started (1B ND & NS Sump pump).
- b. Have control room monitor frequency of frequency of ND & NS Sump pump operation on both units and notify TSC:
 - When pumps run
 - How long they run.
- c. Notify control room that 1A ND/NS Sump pump may be started if other sump pumps cannot maintain sump level.
- d. Request the control room to periodically check (every 30 to 60 minutes) ND & NS Pump room level indication on C/R instrument 0WLP-5950. {PIP-0-M-99-106}

_____ **IF** event involves a LOCA inside containment, OR any event that may result in radioactive water leakage in the aux bldg **THEN** perform the following:

NOTE: The FDT pumps may be aligned to pump through the processing demineralizers to the Waste Monitor Tanks (normal alignment) or aligned to the Aux FDT or Aux WEFT in the Interim Radwaste Facility.

1. Contact Radwaste Chemistry to determine status and alignment of Floor drain Tank pumps.
2. **IF** FDT pumps aligned to Aux FDT or Aux WEFT in the Interim Radwaste Facility (IRF), **THEN**:
 - Ensure tank levels are periodically monitored by Radwaste Chemistry (716' liquid waste panel, APD, or locally in the IRF)
 - Evaluate potential for release of radioactive water outside the Aux Bldg..
3. **IF** OAC is available, **THEN** periodically monitor Floor Drain Tank level. {PIP-0-M-99-104}

SYSTEM ENGINEERING MANAGER
TECHNICAL EVALUATION CHECKLIST

- NOTE:**
- If seal return containment isolation valves are closed, seal return will go to PRT.
 - Closing seal return containment isolation valves if NCDT pressure approaches VCT pressure prevents back flow through NC pump #2 and 3 seals. {PIP M95-1902}
 - NCDT relief pressure is 100 psig.

- CAUTION:**
- If excess letdown is in service, it must be aligned to NCDT prior to closing seal return containment isolation valves.
 - Closing seal return containment isolation valves will reduce NC pump seal DP by approximately 100 psid.
 - An evaluation must be done prior to pumping high activity water outside containment.

—— **IF** normal NCDT cooling and release has been lost (LOOP, SI, Loss of VI), **THEN** monitor NCDT temperature and pressure:

- **IF** NCDT pressure is approaching VCT pressure, **THEN** evaluate making recommendation to close and maintain closed the seal return containment isolation valves 1(2)NV-94AC and 95B), or to reduce NCDT pressure. If NCDT pressure is greater than or equal to VCT pressure, and NV-94AC or 95B is closed, place info tag on valves to contact TSC prior to opening.
- **IF** NCDT pumps are running without KC cooling water (SI or Loss VI) for an extended period of time, and NCDT temperature is approaching 200°F, **THEN** evaluate stopping NCDT pumps prior to flashing KC water in NCDT Hx, or exceeding NCDT piping design temperatures. (Ref MCFD 1(2)565-01.01 and 1(2)573-03.01)

SYSTEM ENGINEERING MANAGER
TECHNICAL EVALUATION CHECKLIST

—— **PERFORM** the following if a loss of off-site power has occurred during this event:
{PIP 0-M95-2052}

1. **IF** off-site power cannot be restored for at least 48 hours from when loss of off-site power occurred, **THEN** perform the following to align power to IPB fans prior to power restoration:
 - a. Notify the Control room that IPB fan cooling is required to dry out ductwork prior to power restoration to associated unit's busses.

NOTE: Time to complete these actions will depend upon availability of alternate power sources.

- b. Verify retail power is available (by measuring voltage) at either Unit 1 Retail Power Panel (located in front of Warehouse #1) or Unit 2 Retail Power Panel (located near Unit 2 turbine building roll-up door). Voltage of approximately 600 VAC should be observed.
- c. **IF** voltage is not present at either retail power panel, **THEN** arrangements to have portable (rental or other means) generator brought on site needs to be made. The portable generator should be sized to be able to run a 150 HP motor rated at 575, 3 phase, 60 Hz VAC with 140 FLA and 870 LRA.
- d. From retail panel or portable power source, run 3/c 2/0 cable or larger, to applicable MCC (1MXG for 1A, 1MXH for 1B, 2MXG for 2A and 2MXH for 2B) for fan to be used. Use site engineering criteria or NEC for alternate cable based upon availability and actual cable length based upon location of power source.
- e. **WHEN** power is aligned to IPB fan, **THEN** dispatch operator to start fan **PER** OP/1/B/6300/10 **OR** OP/2/B/6300/10 (Generator Isolated Phase Bus Cooling), Enclosure 4.4 (Isolated Phase Bus Cooling System Operation in Once-Through Cooling Mode) for a minimum of 2 hours prior to re-energizing buslines to ensure moisture has been removed from IPB ductwork.

—— **IF** NV auxiliary spray is used on Unit 1, **THEN** evaluate number of charging nozzle thermal transients per PIP-0-M-97-325. (The number of transients depends on charging flow and how many times check valve 1NV-20 may have cycled.)

—— **WITHIN** 10 hours of SI initiation, and prior to the onset of Spent Fuel Pool boiling, evaluate restoring SFP cooling **PER** AP/1(2)/A/5500/041 (Loss Of Spent Fuel Pool Cooling Or Level). {PIP 0-M96-3040}

SYSTEM ENGINEERING MANAGER
TECHNICAL EVALUATION CHECKLIST

_____ **PERFORM** the following if a S/G PORV isolation valve was required to be closed to isolate a failed open or leaking S/G PORV {PIP 0-M98-1325}:

NOTE: As affected S/G pressure drops, the S/G PORV isolation valve may start leaking. This may be a concern if the S/G is ruptured.

1. Locally monitor affected S/G PORV line for leakage while depressurizing associated S/G.
2. **IF** S/G PORV starts leaking again, **THEN** dispatch operator to close PORV isolation valve further.

_____ As S/Gs are depressurized, ensure CA control valves for idle CA pumps are throttled as required to prevent CA suction sources from overfilling S/Gs (due to gravity feed).

_____ **IF AT ANY TIME** containment radiation read on EMF - 51A or B ever reaches 10 E5 R/hr, **THEN** notify control room to ensure abnormal containment condition (ACC) setpoints are used in the emergency procedures. {DW - 93-27} (This criteria is used in addition to reaching 3 PSIG in containment. Note that for design basis events, using just the 3 PSIG containment pressure criteria is adequate for determining when ACC setpoints must be used. For some beyond basis LOCAs outside containment, high containment radiation may be reached hours into the event, without reaching 3 PSIG in containment.

NOTE: EP/1(2)/A/5000/E-1 (Loss of Reactor Secondary Coolant) addresses transferring to Hot Leg Recirc requirements during a large break LOCA. This step is needed to evaluate Hot Leg Recirc requirements if other EPs (besides E-1) are in effect.

_____ **IF AT ANY TIME** all of the following conditions exist, **THEN** evaluate the need to perform steps to transfer to Hot Leg Recirc at times greater than or equal to times specified in EP/1(2)/A/5000/E-1 (Loss of Reactor or Secondary Coolant). {DW-97-2}

- LOCA inside containment.
AND
- Transfer to Cold Leg Recirc had been completed.
AND
- EP/1(2)/A/5000/E-1 (Loss of Reactor or Secondary Coolant) is NOT in effect.
AND
- NC subcooling based on core exit thermocouples is less than 0°.

_____ **PROVIDE** all completed paperwork to Emergency Planning upon deactivation of the emergency facility

Duke Power Company
PROCEDURE PROCESS RECORD

(1) ID No. PT/0/A/4600/088
Revision No. 006

PREPARATION

(2) Station McGuire Nuclear Station

(3) Procedure Title Functional Check of Emergency Vehicle and Equipment

(4) Prepared By GF Turner Date 10/28/99

(5) Requires 10CFR50.59 evaluation?

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

(6) Reviewed By Robert E. Beuhman (QR) Date 10/28/99

Cross-Disciplinary Review By _____ (QR) NA REB Date 10/28/99

Reactivity Mgmt. Review By _____ (QR) NA REB Date 10/28/99

(7) Additional Reviews

Reviewed By K.L. Murray Date 11-2-99

Reviewed By _____ Date _____

(8) Temporary Approval (if necessary)

By _____ (SRO/QR) Date _____

By _____ (QR) Date _____

(9) Approved By AS Sloan Date 11-3-99

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 Listed 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

**Functional Check of Emergency
Vehicle and Equipment**

Reference Use

Procedure No.

PT/**0**/A/4600/088

Revision No.

006

Electronic Reference No.

MC0047J7

Functional Check of Emergency Vehicle and Equipment

1. Purpose

- 1.1 To ensure that protective equipment and supplies are operational, and that capable communications exist with the various emergency personnel and emergency organizations at all times in the support of an emergency condition at the station.
- 1.2 The level of use for this procedure is "Reference Use".

2. References

- 2.1 NUREG—0654 (Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants)
- 2.2 Letter from John Dinning (MSA) December 2, 1998. Subject: Expiration of MSA Twin Cartridge Respirator Chemical Cartridges
- 2.3 SH/0/B/2001/003, Investigation of Skin and Clothing Contaminations
- 2.4 HP/0/B/1009/023, Environmental Monitoring for Emergency Conditions
- 2.5 HP/0/B/1009/025, Off-Site Radiological Transportation Incidents
- 2.6 HP/0/B/1009/027, Operation of ESP-2
- 2.7 HP/0/B/1009/022, Accident and Emergency Response
- 2.8 HP/0/B/1009/024, Personnel Monitoring for Emergency Conditions
- 2.9 NUREG—0041, Manual of Respiratory Protection Against Airborne Radioactive Materials
- 2.10 RP/0/A/5700/005, Care and Transportation of Contaminated Injured Individual(s) from Site to Offsite Medical Facility.

3. Time Required

- 3.1 Sixteen (16) manhours

4. Prerequisite Tests

N/A

5. Test Equipment

N/A

6. Limits and Precautions

- 6.1 Each emergency equipment kit shall be inventoried and checked for operability on a quarterly basis (Reference 2.1).
 - An intact emergency equipment tamper seal can be used to verify the inventory; however, a complete item by item inventory shall be conducted at least once per year.
- 6.2 The emergency respirators shall be inspected monthly for dry rot and deformation.
- 6.3 Personnel using an emergency vehicle shall wear seat belts.
- 6.4 Personnel shall follow all FCC regulations during radio transmissions.
- 6.5 Note any identified discrepancy on the proper enclosure and leave the enclosure in the kit. After resolving the discrepancy, make a separate note on the enclosure stating the resolution date and the name of the person performing the resolution.
- 6.6 Combination cartridges have no specific shelf life (Reference 2.2). These cartridges shall be replaced if they are exposed to adverse environmental conditions such as high humidity. To ensure that these cartridges are replaced periodically, cartridges should be ordered from the supplier (MSA, Part No. 4698C) three months prior to the date that is three years after the date of manufacture.
- 6.7 After the use of any emergency kit, a full inventory of that kit is required. The checklist shall be signed and dated each time the kit is inventoried.
- 6.8 During instrument calibration, the check source kept in the Administration Building area may be taken out by the Instrument Cal. Lab for response checks. When the calibration of instruments is complete, the check source shall be returned to the Emergency Equipment cabinets in the Administration Building.
- 6.9 The supplies listed on the emergency kit inventory are the minimum quantity required. Any extra supplies for drill purposes, etc. are acceptable.
- 6.10 Respirators shall be stored so that they are not damaged by adjacent equipment or twisted out of normal configuration (Reference 2.9). Elastic straps should be placed inside the mask to prevent deformation.

7. Required Station Status

N/A

8. Prerequisite System Conditions

N/A

9. Test Method

N/A

10. Data Required

- 10.1 For each inventory and verification that is performed in accordance with this procedure, the appropriate check-off list shall be completed. Refer to the list of enclosures in Section 13 of the procedure.

11. Acceptance Criteria

- 11.1 All required enclosures are completed.

12. Procedure

12.1 Monthly Emergency Equipment Inspection

- 12.1.1 Monthly, complete all inspection requirements per Enclosure 13.1. Sign and date the enclosure and route to RP Staff Representative.

12.2 Quarterly Emergency Kit Inspection

- 12.2.1 Once per quarter, complete all monthly and quarterly inspection requirements per Enclosure 13.1 and 13.2. Sign and date the enclosures and route to RP Staff Representative.
- 12.2.2 Perform a functional check of all portable and mobile van radios per Enclosure 13.25. Sign and date the enclosure and route to RP Staff Representative.
- 12.2.3 Perform a functional verification on EMF54A and 54B per Enclosure 13.26. Sign and date the enclosure and route to RP Staff Representative.

12.3 Annual Emergency Kit Inspection

- 12.3.1 Annually perform a complete item inventory of each emergency kit. Document the inventory, including the monthly and/or quarterly requirements on Enclosures 13.1, 13.2 and 13.3. Sign and date the enclosures and route to the RP Staff Representative.

13. Enclosures

- 13.1 Monthly Emergency Equipment/Kit Inspection
- 13.2 Quarterly Emergency Equipment/Kit Inspection
- 13.3 Annual Emergency Equipment/Kit Inspection
- 13.4 Emergency Kit Locations

- 13.5 Required Changeouts
- 13.6 Environmental Survey Kit Checklist - Sample Van (Vehicle #3224)
- 13.7 Environmental Survey Kit Checklist - Sample Van (Vehicle #3233)
- 13.8 Environmental Survey Kit Checklist - Survey Vehicle
- 13.9 Environmental Survey Kit Checklist - Survey Vehicle
- 13.10 Transportation Accident Kit Checklist
- 13.11 Miscellaneous Kit Checklist
- 13.12 Miscellaneous Kit Checklist
- 13.13 Personnel Survey Kit Checklist - RP Instrument Calibration Lab
- 13.14 Personnel Survey/Recovery Kit Checklist - Admin. Building (Room 158)
- 13.15 Personnel Survey Kit Checklist - Cowan's Ford Dam
- 13.16 Recovery Kit Checklist - Cowan's Ford Dam
- 13.17 Personnel Survey Kit Checklist - Training Center
- 13.18 Recovery Kit Checklist - Training Center
- 13.19 Recovery Kit Checklist - Control Room
- 13.20 Decontamination Kit Checklist - First Aid Room
- 13.21 Decontamination Kit Checklist - Carolinas Medical Center
- 13.22 Operations Support Center Kit Checklist
- 13.23 Technical Support Center Kit Checklist
- 13.24 Monthly Respirator Inspection Sheet
- 13.25 Radio Check Guidelines
- 13.26 EMF 54 Flow Check

Enclosure 13.1
MONTHLY EMERGENCY EQUIPMENT/KIT
INSPECTION

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Check Off

- ☐ 13.1.1 Inspect all emergency kit respirators monthly per the guidelines on Enclosure 13.24 (Monthly Respirator Inspection Sheet). The inspection shall be documented on Enclosure 13.24. Ensure that all appropriate blanks are signed.
- ☐ 13.1.2 Verify that the GMI-H respirator cartridges (MSA, Part No. 4698C) do not need replacement. Replace all cartridges three years from the date of manufacture.
- ☐ 13.1.3 Verify that all procedures contained in emergency kits are the most current revision. Enter the revision number on the applicable checklist.
- ☐ 13.1.4 Verify emergency kit tamper seals intact.
- ☐ 13.1.5 Reinventory of emergency kit(s) due to broken seal. Sign and date the applicable emergency kit checklist after reinventory due to broken seal.

Signature

Date

Enclosure 13.2
QUARTERLY EMERGENCY EQUIPMENT/KIT
INSPECTION

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Check Off

- ☐ 13.2.1 Verify all monthly inspection requirements have been met.
- ☐ 13.2.2 Perform a battery check of each instrument in the emergency kits. Replace any batteries that are weak or dead.
- ☐ 13.2.3 Check all batteries in emergency kits for strength and condition. Replace any batteries that are weak or dead.
- ☐ 13.2.4 Verify that all electronic dosimeters are within calibration. Electronic dosimeters are calibrated every six months.
- ☐ 13.2.5 Verify that film packs in OSC-1 kit are within expiration date. Expiration date: _____
- ☐ 13.2.6 Verify that all potassium iodide tablets are within expiration dates. Expiration date: _____
- ☐ 13.2.7 Check operability of emergency radio transmitters/receivers at a distance of ten (10) miles from the McGuire Site. Refer to Enclosure 13.25 (Radio Check Guidelines) for instructions.
- ☐ 13.2.8 Verify that actual flow is at least 1 scfm at EMF-54A and EMF-54B (located on the north end of each Turbine Building operating floor), per instructions on Enclosure 13.26 (EMF Flow Check) and document all data on enclosure.

Signature

Date

Enclosure 13.3
Annual Emergency Equipment/Kit
Inspection

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Check Off

- ☐ 13.3.1 Perform a complete item inventory of each emergency kit per the applicable checklist. Sign and date the checklist and leave in the emergency kit.
- ☐ 13.3.2 Verify all monthly and quarterly requirements have been met.

Signature

Date

Enclosure 13.4
EMERGENCY KIT LOCATIONS

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<u>KIT ID#</u>	<u>KIT TYPE</u>	<u>LOCATION</u>
1. ESK-1 (Sample Van)	Envr. Survey	Sample Van (Vehicle #3224)
2. ESK-2 (Sample Van)	Envr. Survey	Sample Van (Vehicle #3233)
3. ESK-3 (Survey Vehicle)	Envr. Survey	Admin. Rm. 158, cabinet #2
4. ESK-4 (Survey Vehicle)	Envr. Survey	Admin. Rm. 158, cabinet #2
5. TAK-1	Transportation Accident	Admin. Rm. 158, cabinet #1
6. MSC-1	Miscellaneous	Sample Vans #3224, #3233
7. MSC-2	Miscellaneous	Admin. Rm. 158
8. PSK-1	Personnel Survey	RP Instrument Calibration Lab
9. PSK-2	Personnel Survey/Recovery	Admin. Rm. 158
10. PSK-3	Personnel Survey	Cowan's Ford Dam
11. R-CFD	Recovery	Cowan's Ford Dam
12. PSK-4	Personnel Survey	Training Center (Bldg. 7403)
13. R-TTC	Recovery	Training Center (Bldg. 7403)
14. R-CR1	Recovery	Control Room
15. MDK-1	Medical Decon.	Aux. Bldg. (First Aid Room)
16. MDK-2	Medical Decon.	Carolinas Medical Center
17. OSC-1	OSC	Operations Support Center
18. TSC-1	TSC	Technical Support Center

Enclosure 13.5
REQUIRED CHANGEOUTS

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<u>ITEM</u>	<u>FREQUENCY</u>	<u>NEXT DUE DATE</u>
Respirator Combination Cartridges MSA Part 4698C	per manufacturer cartridge no.	
Potassium Iodide	per manufacturer	
Camera Film 0595356939	per manufacturer (stamped on package)	
Radiation Protection Instruments	every six months	per RPIC
Electronic Dosimeters	every six months	per RPIC

<u>Procedures</u>	<u>Current Revision or Approval Date</u>
SH/0/B/2001/003	
HP/0/B/1009/022	
HP/0/B/1009/023	
HP/0/B/1009/024	
HP/0/B/1009/025	
HP/0/B/1009/027	
RP/0/A/5700/005	

Enclosure 13.6
ENVIRONMENTAL SURVEY KIT
CHECKLIST
SAMPLE VAN VEHICLE #3224

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KIT I.D. ESK-1

ITEM	REQUIRED AMOUNT	√ IF PRESENT
Eberline E-520 or E-120 with probe (located in Admin. Rm. 158)	1	
Magnet	1	
Eberline Model RO-20 or Equivalent (located in Admin. Rm. 158)	1	
Potassium Iodide Tablets (bottle)	1	
Protective Clothing (disposable sets)	3	
Poly Bags (various sizes)	6	
Masking Tape (roll)	1	
Cubitainers	6	
Hand Gardening Spade	1	
Limnological Sampler	1	
Stopwatch	1	
Flashlight	1	
Batteries, D-cell	4	
CP100G Filter Cartridges and Particulate Filters	30 each	
Labels for Filter Cartridges	30	
NuCon Smears (box)	1	
ESK-1 Vehicle Booklet containing: legal pad and Ten Mile Zone Sectors Map - MNS SH/0/B/2001/003 HP/0/B/1009/023 HP/0/B/1009/027	1	
Pen	2	
Grease Pencil	1	
Quarter Roll	1	
Pocket Knife	1	
Grass Clippers	1	
Calculator	1	
Disposable Gloves, bag	1	
Disposable Shoe Covers	12 pair	
Batteries, C cell	6	
ESP-2 with Ba-133 source (located in Admin. Rm. 158)	1	
Rainsuits	1	
Cs-137 Check Source (Cs-7A)	1	

Discrepancies/Resolutions:

Inventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Enclosure 13.7
ENVIRONMENTAL SURVEY KIT
CHECKLIST
SAMPLE VAN VEHICLE #3233

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Page 1 of 1

KIT I.D. ESK-2

ITEM	REQUIRED AMOUNT	√ IF PRESENT
Eberline E-520 or E-120 with probe (located in Admin. Rm. 158)	1	
Magnet	1	
Eberline Model RO-20 or Equivalent (located in Admin. Rm. 158)	1	
Potassium Iodide Tablets (bottle)	1	
Protective Clothing (disposable sets)	3	
Poly Bags (various sizes)	6	
Masking Tape (roll)	1	
Cubitainers and caps	6	
Limnological Sampler	1	
Hand Gardening Spade	1	
Stopwatch	1	
Flashlight	1	
Batteries, D-cell	4	
CP100G Filter Cartridges and Particulate Filters	30 each	
Labels for Filter Cartridges	30	
NuCon Smears (box)	1	
ESK-2 Vehicle Booklet containing: legal pad and Ten Mile Zone Sectors Map - MNS SH/0/B/2001/003 HP/0/B/1009/023 HP/0/B/1009/027	1	
Pen	2	
Grease Pencil	1	
Quarter Roll	1	
Pocket Knife	1	
Grass Clippers	1	
Calculator	1	
Disposable Gloves, bag	1	
Disposable Shoe Covers	12 pair	
Rainsuits	1	
Batteries, C cell	6	
ESP-2 with Ba-133 check source (located in Admin. Rm. 158)	1	
Cs-137 Check Source (Cs-7A)	1	

Discrepancies/Resolutions: _____

Inventoried: _____ Signature/Date

Reinventoried: _____ Signature/Date

Reinventoried: _____ Signature/Date

Reinventoried: _____ Signature/Date

Enclosure 13.8
ENVIRONMENTAL SURVEY KIT
CHECKLIST
SURVEY VEHICLE

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KIT I.D. ESK-3

ITEM	REQUIRED AMOUNT	√ IF PRESENT
Eberline E-520 or E-120 with probe (located in Admin. Rm. 158)	1	
Magnet	1	
Eberline Model RO-20 or Equivalent (located in Admin. Rm. 158)	1	
Potassium Iodide Tablets (bottle)	1	
Flashlight	1	
Batteries, D-cell	4	
NuCon Smears (box)	1	
ESK-3 Vehicle Booklet containing: legal pad and Ten Mile Zone Sectors Maps - MNS SH/0/B/2001/003 HP/0/B/1009/023	1	
Pen	2	
Quarter Roll	1	
Calculator	1	
Disposable Gloves, bag	1	
Cs-137 Check Source (Cs-7A) (located in container labeled "check source")	1	

Discrepancies/Resolutions: _____

Inventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Enclosure 13.9
ENVIRONMENTAL SURVEY KIT
CHECKLIST
SURVEY VEHICLE

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KIT I.D. ESK-4

ITEM	REQUIRED AMOUNT	✓ IF PRESENT
Eberline E-520 or E-120 with probe (located in Admin. Rm. 158)	1	
Magnet	1	
Eberline Model RO-20 or Equivalent (located in Admin. Rm. 158)	1	
Potassium Iodide Tablets (bottle)	1	
Flashlight	1	
Batteries, D-cell	4	
NuCon Smears (box)	1	
ESK-4 Vehicle Booklet containing: legal pad and Ten Mile Zone Sectors Map - MNS SH/0/B/2001/003 HP/0/B/1009/023	1	
Pen	2	
Quarter Roll	1	
Calculator	1	
Disposable Gloves, bag	1	
Cs-137 Check Source (Cs-7A) (located in container labeled "check source")	1	

Discrepancies/Resolutions: _____

Inventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

TRANSPORTATION ACCIDENT KIT CHECKLIST

KIT I.D. TAK-1

ITEM	REQUIRED AMOUNT	✓ IF PRESENT
Eberline E-520 or E-120 with probe	2	
MSA Ultra Twin Respirator w/Combination Cartridge	2	
Step Off Pads	3	
50 yard roll of Barricade Tape (magenta and yellow)	4	
Box of small Kimwipes	2	
Electronic Dosimeters	5	
Magnet	1	
Transportation Accident Kit Booklet containing legal pad and HP/0/B/1009/025	1	
Pens	2	
NuCon Smears (box)	3	
Cotton Gloves, bundle	1	
Shoe Covers, disposable, pair	20	
All Purpose Marker	2	
Scotch Tape Roll and Dispenser	1	
Masking Tape, 1 roll 1" and 1 roll 2"	2	
Rain Suit, disposable	2	
Weather-Proof Caution Signs with Inserts	4	
Radioactive Waste Signs (4" x 6")	25	
Caution: Radiation/Radioactive Material Tags	12	
Binoculars	1	
Quarter Roll	1	
Plastic Sample Bottles	12	
Thermometer	2	
Flashlight	2	
Batteries, D Cell	4	
CP-100 Cartridges	10 each	
Particulate Filters	10	
Roll of Duct Tape	2	
Poly Bags	12	
Protective Clothing (disposable sets)	6	
Safety Glasses	5	
Hard Hats	3	

Discrepancies/Resolutions:

Inventoried:

Signature/Date

Reinventoried:

Signature/Date

Reinventoried:

Signature/Date

Reinventoried:

Signature/Date

Enclosure 13.11
MISCELLANEOUS KIT
CHECKLIST

PT/0/A/4600/088
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KIT I.D. MSC-1

ITEM	REQUIRED AMOUNT	√ IF PRESENT
Rasp Air Sampler (Sample Van)	1	
Rasp Air Sampler (Sample Van)	1	

Since these air samplers are not located inside a kit, it is not necessary to leave a copy of this sheet with the equipment.

Signature/Date

Enclosure 13.12
MISCELLANEOUS KIT
CHECKLIST

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KIT I.D. MSC-2 (Admin Room 158)

ITEM	REQUIRED AMOUNT	√ IF PRESENT
Radeco H809V Air Samplers (Cabinet #2)	2	
Emergency 800 MHz Radios (Cabinet #1)	6	
Limnological Sampler (Cabinet #1)	1	
MSA Ultra Twin Respirator w/Combination Cartridge (Cabinet #2)	10	
RO-20 (Cabinet #1)	4	
E-520 (Cabinet #1)	4	
DMC-90's (Cabinet #2)	15	

Leave a copy of this sheet in Cabinet 1.

Signature/Date

**PERSONNEL SURVEY KIT CHECKLIST
RP INSTRUMENT CALIBRATION LAB**

KIT I.D. PSK-1

ITEM	REQUIRED AMOUNT	√ IF PRESENT
Eberline E-520 or E-120 with probe	1	
MSA Ultra Twin Respirators w/Combination Cartridges	4	
Potassium Iodide Tablets (bottle)	1	
Protective Clothing (disposable sets)	6	
Boundary Ribbon or Rope (50 yd. Roll)	1	
Caution Signs w/inserts	4	
Masking Tape (roll)	1	
Poly Bags (various)	6	
NuCon Smears (box)	2	
PSK-1 Booklet containing: legal pad SH/0/B/2001/003 HP/0/B/1009/022 HP/0/B/1009/024	1	
Pen	2	
Grease Pencil	1	
Pocket Knife	1	
Disposable Coveralls (case - in separate container)	1	
Batteries, D cell	4	
Cs-137 Check Source (Cs-7A)	1	

Discrepancies/Resolutions: _____

Inventoried: _____
Signature/DateReinventoried: _____
Signature/DateReinventoried: _____
Signature/DateReinventoried: _____
Signature/DateReinventoried: _____
Signature/Date

Enclosure 13.14
PERSONNEL SURVEY/RECOVERY KIT
CHECKLIST
ADMIN. BLDG. (ROOM 158)

PT/0/A/4600/088
Page 1 of 1

KIT I.D. PSK-2

ITEM	REQUIRED AMOUNT	√ IF PRESENT
Eberline E-520 or E-120 with probe	2	
MSA Ultra Twin Respirators w/Combination Cartridges	4	
Potassium Iodide Tablets (bottle)	150	
Protective Clothing (disposable sets)	6	
Rain Suits	2	
Boundary Ribbon or Rope (50 yd. Roll)	1	
Caution Signs w/inserts	4	
Masking Tape (roll)	1	
Poly Bags (various)	6	
NuCon Smears (box)	2	
PSK-2 Booklet containing: legal pad SH/0/B/2001/003 HP/0/B/1009/022 HP/0/B/1009/024	1	
Pen	2	
Grease Pencil	2	
Pocket Knife	1	
Hand Soap	10	
Hand Brushes	2	
First Aid Kit	1	
Disposable Towels	1 pk.	
Fingernail Clippers	1	
Flashlight	1	
Disposable Coveralls (case - in separate container)	1	
Small Sample Bottles	60	
Batteries, D cell	4	
Cs-137 Check Source (Cs-7A)	1	

Discrepancies/Resolutions: _____

Inventoried: _____

Signature/Date

Reinventoried: _____

Signature/Date

Reinventoried: _____

Signature/Date

Reinventoried: _____

Signature/Date

Reinventoried: _____

Signature/Date

Enclosure 13.15
PERSONNEL SURVEY KIT
CHECKLIST
COWAN'S FORD DAM

PT/0/A/4600/088
Page 1 of 1

KIT LD. PSK-3

ITEM	REQUIRED AMOUNT	√ IF PRESENT
Eberline E-520 or E-120 w/probe	2	
Electronic Dosimeters	4	
Magnet	1	
MSA Ultra Twin Respirators w/Combination Cartridges	4	
Potassium Iodide Tablets (bottle)	2	
Small Sample Bottles	4	
Protective Clothing (disposable sets)	6	
Boundary Ribbon or Rope (50 yd. Roll)	2	
Caution Signs w/inserts	6	
Masking Tape (roll)	1	
Poly Bags (various)	6	
NuCon Smears (box)	2	
PSK-3 Booklet containing: legal pad SH/0/B/2001/003 HP/0/B/1009/022 HP/0/B/1009/024	1	
Pens	2	
Grease Pencil	2	
Pocket Knife	1	
Hand Soap	10	
Hand Brushes	2	
Disposable Towels	1 pk.	
Fingernail Clippers	1	
Disposable Coveralls (case - in separate container)	1	
Batteries, D cell	4	
Cs-137 Check Source (Cs-7A)	1	

Discrepancies/Resolutions: _____

Inventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Enclosure 13.16
RECOVERY KIT CHECKLIST
COWAN'S FORD DAM

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KIT I.D. R-CFD

ITEM	REQUIRED AMOUNT	✓ IF PRESENT
Electronic Dosimeters	2	
Magnet	1	
Boundary Ribbon or Rope (50 yard roll)	1	
Masking Tape (roll)	1	
Rain Suits	2	
Protective Clothing (disposable sets)	2	
Poly Bags (various)	12	
Caution Signs w/inserts	2	
R-CFD Booklet (containing legal pad)	1	
Pens	2	
Grease Pencil	2	
MSA Ultra-Twin Respirators w/Combination Cartridges	2	
First Aid Kit	1	
Potassium Iodide Tables (Bottles)	470	
NuCon Smears (box)	2	
Soap (bar)	6	
Flashlight	1	
Batteries, D cell	4	
Pocket Knife	1	
Small Sample Bottles	200	

Discrepancies/Resolutions: _____

Inventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

**PERSONNEL SURVEY KIT
CHECKLIST
TRAINING CENTER**

KIT I.D. PSK-4

ITEM	REQUIRED AMOUNT	√ IF PRESENT
Eberline E-520 or E-120 with probe	2	
Electronic Dosimeters	4	
Magnet	1	
MSA Ultra Twin Respirators w/Combination Cartridges	4	
Potassium Iodide Tablets (bottle)	2	
Small Sample Bottles	4	
Protective Clothing (disposable sets)	6	
Boundary Ribbon or Rope (50 yd. Roll)	2	
Caution Signs w/inserts	6	
Masking Tape (roll)	1	
Poly Bags (various)	6	
NuCon Smears (box)	2	
PSK-4 Booklet containing: legal pad SH/0/B/2001/003 HP/0/B/1009/022 HP/0/B/1009/024	1	
Pens	2	
Grease Pencil	2	
Pocket Knife	1	
Hand Soap	10	
Hand Brushes	2	
Disposable Towels	1 pk.	
Fingernail Clippers	1	
Disposable Coveralls (case - in separate container)	1	
Batteries, D cell	4	
Cs-137 Check Source (Cs-7A)	1	

Discrepancies/Resolutions: _____

Inventoried: _____
Signature/DateReinventoried: _____
Signature/DateReinventoried: _____
Signature/DateReinventoried: _____
Signature/DateReinventoried: _____
Signature/Date

Enclosure 13.18
RECOVERY KIT CHECKLIST
TRAINING CENTER

PT/0/A/4600/088
Page 1 of 1

KIT LD. R-TTC

ITEM	REQUIRED AMOUNT	√ IF PRESENT
Electronic Dosimeters	2	
Magnet	1	
Boundary Ribbon or Rope (50 yd. Roll)	1	
Masking Tape (roll)	1	
Rain Suits	2	
Protective Clothing (disposable sets)	2	
Poly Bags (various)	12	
Caution Signs w/inserts	2	
R-TTC Booklet (containing legal pad)	1	
Pens	2	
Grease Pencil	1	
MSA Ultra-Twin Respirators w/Combination Cartridges	2	
First Aid Kit	1	
Potassium Iodide Tablets (Bottles)	150	
Smears (box)	1	
NuCon Smears	30	
Soap (bar)	6	
Flashlight	1	
Batteries, D cell	4	
Pocket Knife	1	
Small Sample Bottles	60	

Discrepancies/Resolutions: _____

Inventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

RECOVERY KIT CHECK LIST CONTROL ROOM

KIT I.D. R-CR1

ITEM	REQUIRED AMOUNT	√ IF PRESENT
Boundary Ribbon or Rope (50 yd. Roll)	1	
Masking Tape (roll)	1	
Rain Suits	2	
Protective Clothing (disposable sets)	2	
Poly Bags (various)	12	
Caution Signs w/inserts	2	
R-CR1 Booklet (containing legal pad)	1	
Pens	2	
Grease Pencil	1	
MSA Ultra-Twin Respirators w/Combination Cartridges	2	
First Aid Kit	1	
Potassium Iodide Tablets (Bottles)	150	
NuCon Smears (box)	2	
Soap (bar)	6	
Flashlight	1	
Batteries, D cell	4	
Pocket Knife	1	
Small Sample Bottles	60	
Cs-137 Check Source (Cs-7A)	1	

Discrepancies/Resolutions: _____

Inventoried: _____

Signature/Date

Reinventoried: _____

Signature/Date

Reinventoried: _____

Signature/Date

Reinventoried: _____

Signature/Date

Reinventoried: _____

Signature/Date

DECONTAMINATION KIT CHECKLIST **FIRST AID ROOM**

KIT I.D. MDK-1

ITEM	REQUIRED AMOUNT	✓ IF PRESENT
Eberline RM014 w/HP-210 Probe (First Aid Room)	1	
Germicidal Spray Cleaner	3	
Disposable Towels	10	
Poly Bags (various)	6	
Fingernail Clippers	1	
NuCon Smears	25	
Hand Brushes	2	
Hand Soap	10	
Protective Clothing (disposable sets)	4	
Disposable Rain Suits	2	
MDK-1 Booklet containing: RP/0/A/5700/05	1	
Tape, Radioactive Material	1	
Tape, Masking 2"	1	
Tape, Duct 2"	1	
Absorbent Pads (box)	1	
Rad Ribbon	1 50' roll	

Discrepancies/Resolutions: _____

Inventoried: _____
Signature/DateReinventoried: _____
Signature/DateReinventoried: _____
Signature/DateReinventoried: _____
Signature/DateReinventoried: _____
Signature/Date

**DECONTAMINATION KIT CHECKLIST
CAROLINAS MEDICAL CENTER**

KIT I.D. MDK-2

ITEM	REQUIRED AMOUNT	√ IF PRESENT
Drawer #1		
Radiation Caution Signs w/inserts	8	
Rad Rope (sections)	4	
Drawer #2		
Inventory List	1	
Pens	1 box	
Radiation Protection Form #2	10	
Drawer #3		
Blue Pads (H)	1 bag	
Poly sheet 4' x 8' wide	1	
Drawer #4		
Masking Tape 2" wide	6 rolls	
Radiation Tape	1 roll	
Drawer #5		
Culturettes (H)	8	
Speciment cups (H)	4	
Disposable Thermometer (H)	2	
Poly Bags	6	
Stethoscope (H)	1	
Zip Loc Poly Bags	10	
NuCon Smears	60	
Drawer #6		
Hand Brushes	4	
Nail Clippers	1	
500 ml Distilled Water (H)	1	
Gauze Sponges 4" x 4" , 12 ply (H)	20	
Betadine Solution (H)	1	
Betadine Surgical Scrub (H)	1	
Surgipad Combine Dressing (H)	5	

Discrepancies/Resolutions: _____

 Inventoried: _____
 Signature/Date

 Reinventoried: _____
 Signature/Date

 Reinventoried: _____
 Signature/Date

 Reinventoried: _____
 Signature/Date

 Reinventoried: _____
 Signature/Date

DECONTAMINATION KIT CHECKLIST **CAROLINAS MEDICAL CENTER**

KIT I.D. MDK-2

ITEM	REQUIRED AMOUNT	✓ IF PRESENT
Drawer #7		
Disposable Protective Clothing	10	
Each set is placed in Zip Loc Poly Bag and labeled.		
One set contains:		
Disposable Coveralls		
1 pair cotton liners		
1 pair PVC gloves		
1 pair PVC booties		
1 pair Eye Shields		
1 hair cover (H)		
1 Fluid Shield Mask (H)		
XXXL Disposable Coveralls	10	
Drawer #8		
Vinyl Gloves	1 box	
Wash Basin (H)	1	
Germicidal Spray Can	1	
E-120 w/probe	1	
E-520 w/probe	1	
D-cell batteries (check condition)	4	
Hair Clipper Set	1	
DMC-90 Electronic Dosimeter	8	

- Supplies followed by (H) are obtained from Hospital personnel. Contact Danny Burdette at Carolina's Medical Center at 355-2838.
- Notify Radiation Protection three (3) months prior to calibration expiration date.

Verify calibration date of instruments and perform battery check.		
Instrument	Calibration Date	Calibration Due
E-120		
E-520		

Discrepancies/Resolutions: _____

Inventoried: _____
Signature/DateReinventoried: _____
Signature/DateReinventoried: _____
Signature/DateReinventoried: _____
Signature/DateReinventoried: _____
Signature/Date

Enclosure 13.22
OPERATIONS SUPPORT CENTER KIT
CHECKLIST

PT/0/A/4600/088
Page 1 of 2

KIT LD.OSC-1

ITEM	REQUIRED AMOUNT	√ IF PRESENT
MSA Ultra Twin Respirator w/Combination Cartridges	4	
Flashlight	4	
Batteries, D-cell	8	
Eberline E-520/E-120	1	
Potassium Iodide (bottles)	25	
Camera	1	
Film Pacs (contain batteries)	20 exposures	
Poly Bags	12	
Pkg. Respirator Cards	1	
Log Book	1	
OSC-1 Booklet (contains legal pad)	1	
Nucon Smears (box)	2	
CP-100 cartridges	30	
Particulate Filters	30	
Labels for Filter Cartridges	30	
Plastic Bags for Cartridges	30	
Tape Recorder	1	
Pens	1 box	
Key to OSC Emergency Equipment Locker	1	
Stopwatch	1	
Cs-137 Check Source (Cs-7A)	1	

Enclosure 13.22
OPERATIONS SUPPORT CENTER KIT
CHECKLIST

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Page 2 of 2

KIT I.D. OSC-1 (continued)

ITEM	REQUIRED AMOUNT	√ IF PRESENT
The following supplies are located in the OSC Emergency Equipment Locker		
Rain Suits	16	
Shoe Covers	16 pr.	
Rubber Gloves	1 bag	
Cotton Liners	1 bag	
Sac Suits	1 box	
Disposable Hoods	1 bag	
Step Off Pads	5	
Tape, Masking 2"	4	
Caution Signs w/inserts	5	
Elevation Maps (in tube located inside RP Office Area in OSC)	7	
Extension Cord	1	
Protective Clothing (set)	4	
OSC EMF/Elevation/Component Information Book	1	

Discrepancies/Resolution: _____

Inventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Enclosure 13.23
TECHNICAL SUPPORT CENTER KIT
CHECKLIST

PT/0/A/4600/088
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KIT LD.TSC-1

ITEM	REQUIRED AMOUNT	√ IF PRESENT
Protective Clothing (disposable sets)	6	
MSA Ultra Twin Respirator w/Combination Cartridges	6	
CP-100 Cartridges and Particulate Filters	25 each	
Labels for Filter Cartridges	25	
Potassium Iodide Tablets (bottle)	25	
Small Sample Bottles	10	
Caution Signs w/inserts	3	
Rad Ribbon	2	
Nucon Smears (box)	1	
Plastic Bags	6	
Masking Tape (roll)	1	
Pen	2	
Grease Pencil	1	
Frisker Stand (not in kit)	1	
Duct Tape (roll)	1	
Extension Cord	1	
Radeco H809V Air Sampler (located outside kit)	1	

- TSC key located in shift office key locker.

Discrepancies/Resolutions: _____

Inventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Reinventoried: _____
Signature/Date

Enclosure 13.24
**MONTHLY RESPIRATOR
 INSPECTION SHEET**
 MONTH _____

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<u>KIT ID#</u>	<u>KIT TYPE</u>	<u>LOCATION</u>	<u>RESPIRATOR NUMBER</u>	<u>INSPECTED BY</u> (signature)
ESK-1	Envr. Survey	Admin. Room 158	3	_____
ESK-2	Envr. Survey	Admin. Room 158	3	_____
ESK-3	Envr. Survey	Admin. Room 158	2	_____
ESK-4	Envr. Survey	Admin. Room 158	2	_____
TAK-1	Transportation Accident	Admin. Room 158	2	_____
PSK-1	Personnel Survey	RP Instrument Cal Lab	4	_____
PSK-2	Personnel Survey/Recovery	Admin. Bldg. Room 158	4	_____
PSK-3	Personnel Survey	Cowans Ford Dam	4	_____
R-CFD	Recovery Kit	Cowans Ford Dam	2	_____
PSK-4	Personnel Survey	TTC	4	_____
R-TTC	Recovery Kit	TTC	2	_____
R-CR1	Recovery	Control Room	2	_____
OSC-1	Operation Support Center	Work Control Center Area	4	_____
TSC-1	Technical Support Center	TSC Dose Assessment Area	6	_____
				44

INSPECTION CRITERIA

- Check all surfaces for dry rot or deformation.
- Check lens retaining ring for integrity.
- Check lens for clarity.
- Remove exhalation valve cover.
- Check exhalation valve for dry rot, deformation, cracks, tears and residue.
- Check placement of exhalation valve cover.
- Ensure the inhalation valves are in place on both sides and that there are no visible defects.
- Check the headstraps for dry rot or deformation. They should be stored loosely, inside the facepiece, not strapped over the lens of the facepiece.
- Return completed enclosure to the Staff Representative.

RESPIRATOR CHECKS COMPLETED

_____/_____
 Signature(s) Date

_____/_____
 Staff Representative Signature Date

Enclosure 13.25
RADIO CHECK GUIDELINES

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BASE STATION: Turn on radio base station and use call sign WQC700 to sign on. "This is WQC700 McGuire base signing on for radio check". After radio check is completed, sign off using call sign. If CNS is using the radios for a drill or emergency, abandon check.

PORTABLE RADIOS: Six (6) 800 MHz hand held radios located in cabinet #1, Room 158 of the Administration Building. Two (2) mobile radios in each sample van (vehicles 3224 and 3233). To test the portable radios:

1. Remove the radio from the charger.
2. Screw in antenna to the top of the radio.
3. Turn **off/on/volume** control switch on the top of the radio until **SELF TEST** is digitally displayed on the front. **MCGUIRE C17** will be displayed. If **MCGUIRE C17** is not displayed after **SELF TEST**, turn the numbered dial on the top of the radio to position 3. Ensure small toggle is set to position A. Radio is now ready to transmit and receive. No squelch adjustment is required.
4. Test the radios using the mobile call sign ("WQC 700, McGuire base, this is KA82138, radio check of portable radio number XXXX. Do you copy?") Designate each portable by the DPC number engraved on the side. It is necessary to exchange batteries, make sure the radio is turned off before removing or replacing it.
5. Turn the radio off after testing.
6. Remove the antenna and place in the storage cabinet.
7. Place the radio into a charging unit.
8. Ensure that the cabinet is closed and locked.

MOBILE EMERGENCY VAN RADIOS: One (1) located in the front of each vehicle.

1. Turn on the unit by pressing **power** button.
2. The unit will display **SELF CHECK**, press the mode key until **MCGUIRE** is displayed. You are ready to transmit and receive.

IMPORTANT: Ensure that the radio is turned off after returning from exercise or emergency.

These units will not turn off automatically when the van is turned off. Leaving the radio on will result in a vehicle dead battery.

TEN-MILE RADIO CHECK LOCATIONS: Any location on the 10 mile EPZ perimeter is satisfactory for testing. Avoid stopping vehicles on the shoulder of the road during radio checks.

VERIFICATION OF EMERGENCY COMMUNICATIONS

This document shall serve as written verification that McGuire Nuclear Station's emergency radio transmitter/receivers have been successfully checked for operation at the distances prescribed by this procedure. (To be done quarterly).

Discrepancies Noted: _____

Corrective Actions Taken: _____

Signature/Date

Enclosure 13.26
EMF54 FLOW CHECK

PT/0/A/4600/088
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INSTRUCTIONS:

- Start both EMF's using the TSC motor controller by pressing the start button.
- Verify actual flow is 1 scfm at each package. (Document below).
- Secure the EMF's using the TSC motor controller by pressing the stop button and the acknowledge button when loss of flow alarm sounds.

EMF54A

Observed flow (fo): _____cfm

Observed vacuum (Vo) _____inches of Hg.

Actual flow (fa) _____scfm

EMF54B

Observed flow (fo): _____cfm

Observed vacuum (Vo) _____inches of Hg.

Actual flow (fa) _____scfm

Use: $fa = fo \sqrt{\frac{29.92 - Vo}{29.92}}$

Discrepancies:

Signature/Date