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U. S. Nuclear Regulatory Commission

ATTN: Document Control Desk

Washington, DC 20555

Reference: Docket No. 50-285

**SUBJECT: Transmittal of Changes to Emergency Plan Implementing Procedures (EPIP) and
Emergency Planning Forms (EPF)**

In accordance with 10 CFR 50.54(q), 10 CFR 50, Appendix E, Section V, and 10 CFR 50.4(b)(5), please find EPIP and EPF change packages enclosed for the Document Control Desk (holder of Copy 165) and the NRC Region IV Plant Support Branch Secretary (holder of Copies 154 and 155).

The document update instructions and summary of changes are included on the Confirmation of Transmittal form (Form EP-1) attached to each controlled copy change package. Please return the Confirmation of Transmittal forms by July 2, 2002.

The revised documents included in the enclosed package are:

EPIP Index Pages 1 – 3 issued May 2, 2002

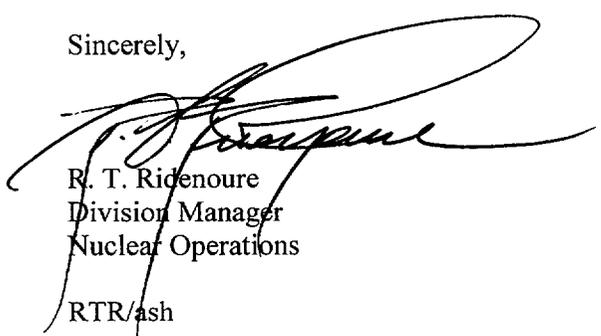
EPIP-OSC-1 R35 issued 05/02/02

FC-EPF Index pages 1 & 2 issued 05/02/02

FC-EPF-42 R1 issued 05/02/02

If you have any questions regarding the enclosed changes, please contact Mr. Carl Simmons at (402) 533-6430.

Sincerely,



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Division Manager
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RTR/ash

Enclosures

c: NRC Region IV Plant Support Branch Secretary (2 sets)
Alan Wang, NRC Project Manager (w/o enclosures)
W. C. Walker, NRC Senior Resident Inspector (w/o enclosures)
Winston & Strawn (w/o enclosures)
Emergency Planning Department (w/o enclosures)

A045

Document	Document Title	Revision/Date
EPIP-OSC-1	Emergency Classification	R35 05-02-02
EPIP-OSC-2	Command and Control Position Actions/ Notifications	R40 02-04-02
EPIP-OSC-9	Emergency Team Briefings	R7 12-09-99
EPIP-OSC-15	Communicator Actions	R22 10-24-00
EPIP-OSC-21	Activation of the Operations Support Center	R11 11-27-01
EPIP-TSC-1	Activation of the Technical Support Center	R22 0-04-02
EPIP-TSC-2	Catastrophic Flooding Preparations (R0 03-22-95) DELETED (05-09-95) REINSTATED	R2 02-06-96
EPIP-TSC-8	Core Damage Assessment	R14 01-19-01
EPIP-EOF-1	Activation of the Emergency Operations Facility	R12 08-24-00a
EPIP-EOF-3	Offsite Monitoring	R17 12-07-01
EPIP-EOF-6	Dose Assessment	R32 01-23-02
EPIP-EOF-7	Protective Action Guidelines	R13 10-31-00b
EPIP-EOF-10	Warehouse Personnel Decontamination Station Operation	R10 01-13-00a

Document	Document Title	Revision/Date
EPIP-EOF-11	Dosimetry Records, Exposure Extensions and Habitability	R18 09-18-97b
EPIP-EOF-19	Recovery Actions	R7 09-30-98
EPIP-EOF-21	Potassium Iodide Issuance	R4 11-07-00
EPIP-EOF-23	Emergency Response Message System	R5 10-12-99
EPIP-EOF-24	EOF Backup Alert Notification System Activation	R3 09-09-99
EPIP-RR-11	Technical Support Center Director Actions	R14 02-29-00
EPIP-RR-13	Reactor Safety Coordinator Actions	R14 12-09-99
EPIP-RR-17	TSC Security Coordinator Actions	R14 04-04-01
EPIP-RR-17A	TSC Administrative Logistics Coordinator Actions	R19 07-23-01
EPIP-RR-19A	Operations Liaison Actions	R5 10-07-99
EPIP-RR-21	Operations Support Center Director Actions	R12 09-23-99
EPIP-RR-21A	Maintenance Coordinator Actions	R4 11-30-99
EPIP-RR-22	Protective Measures Coordinator/Manager Actions	R21 07-02-01
EPIP-RR-22A	Chemistry Coordinator Actions	R6 12-07-01

Document	Document Title	Revision/Date
EPIP-RR-25	EOF Dose Assessment Coordinator Actions	R20 11-15-01
EPIP-RR-28	OSC Accountability and Dosimetry Technician Actions	R8 09-25-01
EPIP-RR-29	EOF Administrative Logistics Manager Actions	R19 03-13-01b
EPIP-RR-39	Control Room Medical Responder Actions	R0 03-27-01
EPIP-RR-63	EOF Dose Assessment Assistant Actions	R10 11-19-01
EPIP-RR-66	Communication Specialist Actions	R8 08-31-99
EPIP-RR-72	Field Team Specialist Actions	R12 02-29-00a
EPIP-RR-87	Radiation Protection Coordinator Actions	R7 08-24-00
EPIP-RR-90	EOF/TSC CHP Communication Actions	R0 10-24-00

Fort Calhoun Station
Unit No. 1

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EPIP-OSC-1

EMERGENCY PLAN IMPLEMENTING PROCEDURE

Title: **EMERGENCY CLASSIFICATION**

FC-68 Number: EC 29663

Reason for Change: Clarify the manual reactor trip verification criteria in EALs 1.5 and 1.14. Revise the fire verification criteria in EAL 6.1 to meet the criteria in NUREG 0654. Add a new NOUE EAL to deal with a credible threat to FCS.

Requestor: R. Meng

Preparer: R. Meng

EMERGENCY CLASSIFICATION

NON-SAFETY RELATED

1. PURPOSE

- 1.1 This procedure establishes criteria for classification of abnormal events into one of the four standard emergency classifications. These classifications are consistent with guidance found in NUREG-0654/FEMA REP-1, Rev.1 and the NRC Branch Position Letter entitled, "Acceptable Deviations from Appendix 1 to NUREG-0654 Based upon the Regulatory Analysis of NUMARC/NESP-007, "Methodology for Development of Emergency Action Levels"."

2. REFERENCES/COMMITMENT DOCUMENTS

- 2.1 Radiological Emergency Response Plan
- 2.2 Emergency Plan Implementing Procedures
- 2.3 NUREG-0654/FEMA-REP-1, Rev. 1
- 2.4 10CFR50
- 2.5 Acceptable Deviations from Appendix 1 to NUREG-0654 Based upon the Regulatory Analysis of NUMARC/NESP-007, Methodology for Development of Emergency Action Levels
- 2.6 NEI 99-02, Regulatory Assessment Performance Indicator Guideline
- 2.7 NUMARC/NESP-007, Methodology for Development of Emergency Action Levels
- 2.8 Engineering Analysis No. EA-FC-92-035, Evaluation of Emergency Action Levels: Failed Fuel
- 2.9 Methodology for Development of Emergency Action Levels NUMARC/NESP-007, Revision 2, Questions and Answers, June 1993
- 2.10 Commitment Documents
 - AR 7987, LIC-88-0165

3. DEFINITIONS

- 3.1 **CONTAINMENT CLOSURE** - The action to secure containment and its associated structures, systems, and components as a **FUNCTIONAL** barrier to fission product release under existing plant conditions.
- 3.2 **EMERGENCY ACTION LEVEL (EAL)** - Alarms, instrument readings or visual sightings that have exceeded predetermined limits which would categorize the situation into an initiating condition of one of the four emergency classifications.
- 3.3 **EMERGENCY CLASSIFICATION** - One of the following classifications:
- 3.3.1 **NOTIFICATION OF UNUSUAL EVENT (NOUE)** - Unusual events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.
- Purpose: (1) to assure that the first step in any response, determined to be necessary in the judgement of a command and control position, has been carried out, (2) bring the operating staff to a state of readiness and (3) provide systematic handling of unusual events information and decision making.
- 3.3.2 **ALERT** - Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.
- Purpose: (1) to assure that emergency personnel are readily available to respond if the situation becomes more serious or to perform confirmatory radiation monitoring if required and (2) provide offsite authorities current status information.
- 3.3.3 **SITE AREA EMERGENCY** - Events are in progress or have occurred which involve actual or likely major failures of the plant functions needed for protection of the public. Any releases are not expected to exceed EPA Emergency Action Guideline exposure levels except near the site boundary.
- Purpose: (1) to assure that response centers are manned, (2) assure that monitoring teams are dispatched, (3) assure that offsite personnel required for evacuation of near-site areas are at duty stations if situation becomes more serious, (4) provide consultation with offsite authorities and (5) provide updates for the public through offsite authorities.

- 3.3.4 **GENERAL EMERGENCY** - Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with the potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite.
- Purpose: (1) to initiate predetermined protective actions for the public, (2) provide continuous assessments of information from licensee and offsite organization measurements, (3) initiate additional measures as indicated by actual or potential releases, (4) provide consultation with offsite authorities and (5) provide updates for the public through offsite authorities.
- 3.4 **EMERGENCY COMMAND AND CONTROL** - Overall direction of licensee response which must include the non-delegable responsibilities for the decision to notify and recommend protective actions to the state and counties and other authorities responsible for offsite emergency measures. The direction of licensee operations to mitigate accident consequences remains with a qualified Command and Control position.
- 3.5 **ENGINEERED SAFETY FEATURES (ESF)** - The basic features of engineered safety systems, intended to mitigate the consequences of design-basis accidents and beyond-design-basis LOCA.
- 3.6 **EXCLUSION AREA** - The area surrounding the nuclear power plant in which the reactor licensee has the authority to determine all activities including exclusion or removal of personnel and property from that area. The term is synonymous with "onsite".
- 3.7 **FAILED FISSION PRODUCT BARRIER** - The fission product barrier is incapable of sufficiently retaining radioactive materials to protect the public.
- 3.8 **FISSION PRODUCT BARRIER** - The fuel cladding, reactor coolant system boundary, or the containment building.
- 3.9 **INTACT** - The fission product barrier retains the ability to protect the public from a harmful release of radioactive materials.
- 3.10 **MODES OF OPERATION** - One of the following classified plant conditions:
- 3.10.1 **POWER OPERATION CONDITION (MODE 1)** - The reactor is in the power operation condition when it is critical and the neutron flux power range instrumentation indicates greater than 2% of rated power.

- 3.10.2 HOT STANDBY CONDITION (MODE 2) - The reactor is considered to be in a hot standby condition if the average temperature of the reactor coolant (T_{ave}) is greater than 515°F, the reactor is critical, and neutron flux power range instrumentation indicates less than 2% of rated power.
- 3.10.3 HOT SHUTDOWN CONDITION (MODE 3) - The reactor is in a hot shutdown condition if the average temperature of the reactor coolant (T_{ave}) is greater than 515°F and the reactor is subcritical by at least the amount defined in Technical Specification paragraph 2.10.2.
- 3.10.4 COLD SHUTDOWN CONDITION (MODE 4) - The reactor coolant temperature (T_{cold}) is less than 210°F and the reactor coolant is at shutdown boron concentration.
- 3.10.5 REFUELING SHUTDOWN CONDITION (MODE 5) - The reactor coolant is at a refueling boron concentration and reactor coolant temperature (T_{cold}) is less than 210°F.

3.11 OFFSITE - Those areas not within the exclusion area boundary.

3.12 ONSITE - The area surrounding the nuclear power plant in which the reactor licensee has the authority to determine all activities including exclusion or removal of personnel and property from that area. The term is synonymous with "Exclusion Area Boundary".

3.13 VERIFICATION CRITERIA - The plant or site condition by which the decision may be based for classifying the emergency.

4. PREREQUISITES

- 4.1 There are no specific prerequisites for this procedure. Any abnormal or off normal event is cause for referring to this Emergency Plan Implementing Procedure.

5. PROCEDURE

NOTE: The highest emergency classification for which an Emergency Action Level is currently met should be declared. If an action level for an emergency classification was exceeded but has since abated or otherwise been resolved prior to declaration, refer to EPIP-OSC-2, Section 5 for notification guidance.

NOTE: Unless specific criteria is identified in the "Applicable Modes" section of an EAL, the plant shall always be assumed to be in the higher Operating Mode (numerically lower) during transitions between modes for the purposes of Emergency Classification (i.e., if T_{cold} is 246°F, the plant is considered to be in Operating Mode 3 if no temperatures are specified).

NOTE: The Emergency Action Levels described in this procedure are not intended to be used during approved maintenance and/or testing situations where abnormal temperature, pressure, equipment status, etc., is expected.

NOTE: Emergency classifications are to be made consistent with the goal of 15 minutes once plant parameters reach or exceed the Verification Criteria in an EAL. The 15 minute goal is a reasonable period of time for assessing and classifying an emergency once indicators are available to the Control Room and other personnel that Verification Criteria has been exceeded. The 15 minute goal should not be interpreted as providing a grace period in which a licensee may attempt to restore plant conditions and avoid classifying the emergency.

- 5.1 Validate the indications/reports of the off-normal event or reported sighting.
- 5.2 Ensure the immediate actions (use of Emergency and Abnormal Operating Procedures) are being taken for the safe and proper operation of the plant.
- 5.3 Compare the abnormal conditions with the EAL's listed on Attachment 6.2. Choose the appropriate EAL.
- 5.4 Turn to the selected EAL page in Attachment 6.1 and verify the EAL against the verification criteria and applicable modes.
 - 5.4.1 If verification criteria is met; **Declare the Emergency Classification Indicated.**
 - 5.4.2 If verification criteria is not met; repeat Steps 5.3 and 5.4 and evaluate other related EAL's as necessary.
- 5.5 Monitor response activities and plant conditions and adjust classifications as necessary.

6. ATTACHMENTS

- 6.1 Emergency Action Level Verification Criteria
- 6.2 Emergency Action Levels (EAL's)
- 6.3 Three Fission Product Barrier Criteria

Attachment 6.1

EAL 1.1

EAL 1.1

**RCS RADIOACTIVITY
EXCEEDS TECHNICAL SPECIFICATION LIMITS**

VERIFICATION CRITERIA:

1. Any of the following conditions exist:

- **RCS Dose Equivalent Iodine-131 exceeds 1.0 $\mu\text{Ci/gm}$ for more than 100 hours during one continuous time interval.**
- **RCS Dose Equivalent Iodine-131 exceeds 60 $\mu\text{Ci/gm}$.**
- **The radioactivity of the reactor coolant exceeds 100 over E-bar $\mu\text{Ci/gm}$.**

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 1.2

EAL 1.2

**UNIDENTIFIED RCS LEAKAGE >10 GPM
OR PRIMARY TO SECONDARY LEAKAGE > 10 GPM
OR TOTAL RCS LEAKAGE > 25 GPM**

VERIFICATION CRITERIA:

1. Any of the following conditions:

- Unidentified RCS leakage is greater than 10 gpm.
- Primary to Secondary leakage is greater than 10 gpm.
- Total RCS leakage is greater than 25 gpm.

APPLICABLE MODES:

T_{cold} greater than 210 °F

EMERGENCY CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 1.3

RCS DOSE EQUIVALENT IODINE-131 > 180 μ Ci/gm

EAL 1.3

VERIFICATION CRITERIA:

- 1. RCS Dose Equivalent Iodine-131 sample is greater than 180 μ Ci/gm.**

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 1.4

RCS LEAKAGE > 40 GPM

EAL 1.4

VERIFICATION CRITERIA:

1. **RCS leakage is greater than 40 gpm.**

APPLICABLE MODES:

1-5 (with fuel in the Reactor Vessel)

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 1.5

EAL 1.5

AUTOMATIC OR A MANUAL REACTOR TRIP WAS NOT SUCCESSFUL

VERIFICATION CRITERIA:

NOTE: Reactivity Control is indicated by a negative startup rate and lowering reactor power.

1. An automatic reactor trip did **NOT** occur upon reaching a Reactor Protective System set point:

- High Power
- High Startup Rate
- Low Flow
- Low SG Level
- Low SG Pressure
- ASGT
- High Pressurizer Pressure
- TM/LP
- Loss of Load
- Containment Pressure
- APD

OR

2. **ALL** of the following manual reactor trips failed to establish Reactivity Control:

- Manual TRIP on CB-4
- Manual TRIP on AI-31
- DSS Manual Trip Switches on AI-66A/B

APPLICABLE MODES:

1-3

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 1.6

CONTAINMENT PRESSURE APPROACHING 60 PSIG

EAL 1.6

VERIFICATION CRITERIA:

1. Containment pressure is greater than 60 psig.

OR

2. Containment pressure is rising at a rate that will cause pressure to exceed 60 psig before corrective action can halt or reverse the pressure increase.

APPLICABLE MODES:

T_{cold} greater than 210 °F

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 1.7

CONTAINMENT HYDROGEN CONCENTRATION > 3.0%

EAL 1.7

VERIFICATION CRITERIA:

- 1. Containment air hydrogen concentration is greater than 3.0%.**

APPLICABLE MODES:

T_{cold} greater than 210 °F

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 1.8

**CONTAINMENT PRESSURE > 5 PSIG
WITH HIGH RADIATION**

EAL 1.8

VERIFICATION CRITERIA:

1. Containment air pressure is greater than 5 psig.

AND

2. Any valid containment area radiation monitor indicates 1,000 times the normal values as listed in the TDB Fig. IV.8.

APPLICABLE MODES:

1-5 (with fuel in the Reactor Vessel)

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 1.9

EAL 1.9

**FAILURE/CHALLENGE TO
ONE (1) FISSION PRODUCT BARRIER**

VERIFICATION CRITERIA:

1. **This event is not covered by any other EAL.**

AND

2. **There is a failure or challenge to any one of the three fission product barriers (refer to Attachment 6.3):**
- **Fuel Cladding**
 - **Reactor Coolant System**
 - **Containment**
-

APPLICABLE MODES:

Fuel Cladding	Modes 1-5
Reactor Coolant System	Modes 1-5 (with fuel in the Reactor Vessel)
Containment	T_{cold} greater than 210°F

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 1.10

EAL 1.10

**LOSS OF SHUTDOWN COOLING
OR LOSS OF SHUTDOWN MARGIN**

VERIFICATION CRITERIA:

1. Any of the following:

- **Shutdown cooling capability has been lost and the time to restore shutdown cooling is greater than the time remaining to boil (AOP-19).**
- **RCS temperature is being maintained by "once-through-cooling" per AOP-19.**
- **Required shutdown margin cannot be maintained.**

APPLICABLE MODES:

3, 4, or 5 (if on shutdown cooling)

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 1.11

EAL 1.11

**RCS LEAKAGE > 40 GPM AND RCS PRESSURE
CONTINUES TO LOWER AFTER HPSI INJECTION BEGINS**

VERIFICATION CRITERIA:

1. RCS leakage is greater than 40 gpm.

AND

NOTE: Shift Supervisor judgement is required in determining HPSI pump injection effectiveness in controlling RCS pressure, post LOCA.

2. RCS pressure, post LOCA, continues to lower following available HPSI pump injection into the RCS.

APPLICABLE MODES:

1-5 (with fuel in the Reactor Vessel)

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 1.12

EAL 1.12

**DOSE EQUIVALENT IODINE-131 >180 μ Ci/gm
WITH INADEQUATE CORE COOLING**

VERIFICATION CRITERIA:

1. RCS Dose Equivalent Iodine-131 is greater than 180 μ Ci/gm.

AND

2. Core cooling is inadequate as indicated by any of the following:

- Any valid CET temperature greater than 1,000°F.
- RVLMS indicates 0.0%.
- Adequate safety injection flow can NOT be maintained per EOP, Attachment 3.

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 1.13

EAL 1.13

**FAILURE/CHALLENGE TO
TWO (2) FISSION PRODUCT BARRIERS**

VERIFICATION CRITERIA:

1. **This event is not covered by any other EAL.**

AND

2. The event is a failure or challenge to **ANY** two (2) fission product barriers (refer to Attachment 6.3).
 - Fuel Cladding
 - Reactor Coolant System
 - Containment

APPLICABLE MODES:

Fuel Cladding Modes 1-5
Reactor Coolant System Modes 1-5 (with fuel in the Reactor Vessel)
Containment T_{cold} greater than 210°F

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 1.14

EAL 1.14

**BOTH AUTOMATIC AND MANUAL REACTOR TRIPS
WERE NOT SUCCESSFUL**

VERIFICATION CRITERIA:

NOTE: Reactivity Control is indicated by a negative startup rate and lowering reactor power.

1. An automatic reactor trip did **NOT** occur upon reaching a Reactor Protective System set point:

- High Power
- High Startup Rate
- Low Flow
- Low SG Level
- Low SG Pressure
- ASGT
- High Pressurizer Pressure
- TM/LP
- Loss of Load
- Containment Pressure
- APD

AND

2. **ALL** of the following manual reactor trips failed to establish Reactivity Control:

- Manual TRIP on CB-4
- Manual TRIP on AI-31
- DSS Manual Trip Switches on AI-66A/B

APPLICABLE MODES:

1-3

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 1.15

EAL 1.15

**LOSS OF ANY FUNCTION NEEDED
FOR PLANT HOT SHUTDOWN**

VERIFICATION CRITERIA:

1. Any of the following conditions exist:

- **Loss of both steam generators as a heat sink.**
- **Inability to achieve and maintain required shutdown margin.**
- **Inability to achieve and maintain subcooled natural circulation if forced circulation is not available.**
- **Inability to maintain reactor coolant system liquid volume.**

APPLICABLE MODES:

**1-3
4 or 5 (if NOT on shutdown cooling)**

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 1.16

EAL 1.16

**IMMINENT CORE UNCOVERY
WITH CONTAINMENT FAILURE OR CHALLENGE**

VERIFICATION CRITERIA:

1. Actual or imminent core uncovery as indicated by ANY of the following:
 - Any valid CET temperature greater than 1,000°F.
 - RVLMS indicates 0.0% (core uncovery).
 - Adequate safety injection flow cannot be maintained per EOP, Attachment 3.

AND

2. Containment failure or challenge exists as indicated per Attachment 6.3.
-

APPLICABLE MODES:

1-3

EMERGENCY CLASSIFICATION:

CAUTION

Protective Action Recommendations Required per EPIP-EOF-7.

GENERAL EMERGENCY

Attachment 6.1

EAL 1.17

EAL 1.17

**FAILURE/CHALLENGE TO
THREE (3) FISSION PRODUCT BARRIERS**

VERIFICATION CRITERIA:

1. The event is a failure or challenge to ALL three (3) fission product barriers (refer to Attachment 6.3).
 - Fuel Cladding
 - Reactor Coolant System
 - Containment

APPLICABLE MODES:

Fuel Cladding Modes 1-5
Reactor Coolant System Modes 1-5 (with fuel in the Reactor Vessel)
Containment T_{cold} greater than 210°F

EMERGENCY CLASSIFICATION:

CAUTION

Protective Action Recommendations Required per EPIP-EOF-7.

GENERAL EMERGENCY

Attachment 6.1

EAL 1.18

EAL 1.18

**AUTOMATIC AND MANUAL REACTOR TRIPS AND
EMERGENCY BORATION WERE NOT SUCCESSFUL
AND CORE COOLING IS INADEQUATE**

VERIFICATION CRITERIA:

1. An automatic reactor trip, manual reactor trip and emergency boration did NOT establish reactivity control per EOP-20, Safety Function Status Check.

AND

2. Core cooling is inadequate as indicated by ANY of the following:
 - Any valid CET temperature greater than 1,000°F.
 - RVLMS indicates 0.0%.
 - Adequate safety injection flow can not be maintained per EOP, Attachment 3.
 - Loss of ALL feedwater addition capability.

APPLICABLE MODES:

1-3

EMERGENCY CLASSIFICATION:

CAUTION

Protective Action Recommendations Required per EPIP-EOF-7.

GENERAL EMERGENCY

Attachment 6.1

EAL 2.1

**UNCONTROLLED STEAM GENERATOR
HEAT EXTRACTION**

EAL 2.1

VERIFICATION CRITERIA:

1. Any of the following conditions exist:

- **Uncontrolled heat extraction in progress per EOP-05/EOP-20.**
- **Any valid actuation of SGIS (other than CPHS caused by a LOCA).**
- **Failure of ANY steam generator relief valve to close.**

APPLICABLE MODES:

1-3

EMERGENCY CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 2.2

**RM-057 (CONDENSER OFF GAS)
> HIGH ALARM**

EAL 2.2

VERIFICATION CRITERIA:

1. **Condenser Off Gas Process Monitor is reading greater than the HIGH ALARM set point.**

APPLICABLE MODES:

T_{cold} greater than 210 °F

EMERGENCY CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 2.3

PRIMARY TO SECONDARY LEAKAGE >10 GPM

EAL 2.3

VERIFICATION CRITERIA:

- 1. Primary to Secondary leakage is greater than 10 gpm.**

APPLICABLE MODES:

T_{cold} greater than 210 °F

EMERGENCY CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 2.4

**PRIMARY TO SECONDARY LEAKAGE >10 GPM
WITH AN ONGOING RELEASE**

EAL 2.4

VERIFICATION CRITERIA:

1. Primary to Secondary Leakage is greater than 10 gpm.

AND

2. Any one of the following conditions exist:

- Uncontrolled heat extraction in progress outside of containment per EOP-05/EOP-20 on the Steam Generator WITH the Primary to Secondary leakage.
- Frequent opening of, pro-longed opening of OR a stuck open Main Steam Safety Valve on the affected Steam Generator.
- An ongoing release is in progress from the affected steam generator via HCV-1040.

APPLICABLE MODES:

1-5 (with fuel in the Reactor Vessel)

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 2.5

PRIMARY TO SECONDARY LEAKAGE > 40 GPM

EAL 2.5

VERIFICATION CRITERIA:

1. **Primary to Secondary leakage is greater than 40 gpm.**

APPLICABLE MODES:

1-5 (with fuel in the Reactor Vessel)

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 2.6

LOSS OF ALL FEEDWATER

EAL 2.6

VERIFICATION CRITERIA:

CAUTION

IF "once-through-cooling" is required, THEN proceed to EAL 2.8.

1. Loss of ALL feedwater addition capabilities (AOP-28/EOP-6/EOP-20).

APPLICABLE MODES:

1-3
4 or 5 (if NOT on shutdown cooling)

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 2.7

EAL 2.7

**PRIMARY TO SECONDARY LEAKAGE > 40 GPM
WITH AN ONGOING RELEASE**

VERIFICATION CRITERIA:

1. Primary to Secondary Leakage is greater than 40 gpm.

AND

2. Any one of the following conditions exist:

- **Uncontrolled heat extraction in progress outside of containment per EOP-05/EOP-20 on the Steam Generator WITH the Primary to Secondary leakage.**
- **Frequent opening of, pro-longed opening of OR a stuck open Main Steam Safety Valve on the affected Steam Generator.**
- **An ongoing release is in progress from the affected steam generator via HCV-1040.**

APPLICABLE MODES:

1-5 (with fuel in the Reactor Vessel)

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 2.8

EAL 2.8

**LOSS OF ALL FEEDWATER AND
"ONCE THROUGH COOLING" REQUIRED**

VERIFICATION CRITERIA:

1. **Loss of all feedwater addition capabilities.**

AND

2. **"Once-through-cooling" is required per AOP-28/EOP-6/EOP-20.**

APPLICABLE MODES:

**1-3
4 or 5 (if NOT on shutdown cooling)**

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 2.9

EAL 2.9

**PRIMARY TO SECONDARY LEAKAGE > 40 GPM
WITH AN ONGOING RELEASE AND
DOSE EQUIVALENT IODINE-131 >180 μ Ci/gm**

VERIFICATION CRITERIA:

1. Primary to Secondary leakage is greater than 40 gpm.

AND

2. Any one of the following conditions exist:

- **Uncontrolled heat extraction in progress outside of containment per EOP-05/EOP-20 on the Steam Generator WITH the Primary to Secondary leakage.**
- **Frequent opening of, pro-longed opening of OR a stuck open Main Steam Safety Valve on the affected Steam Generator.**
- **An ongoing release is in progress from the affected steam generator via HCV-1040.**

AND

3. Dose Equivalent Iodine-131 is greater than 180 μ Ci/gm.

APPLICABLE MODES:

1-5 (with fuel in the Reactor Vessel)

EMERGENCY CLASSIFICATION:

CAUTION

Protective Action Recommendations Required per EPIP-EOF-7.

GENERAL EMERGENCY

Attachment 6.1

EAL 2.10

EAL 2.10

**LOSS OF ALL FEEDWATER WITH FUEL CLADDING
AND CONTAINMENT FAILURE OR CHALLENGE**

VERIFICATION CRITERIA:

1. Loss of all feedwater addition capabilities.

AND

2. "Once-through-cooling" is required per AOP-28/EOP-6/EOP-20.

AND

3. Fuel cladding failure or challenge exists per Attachment 6.3.

AND

4. Containment failure or challenge exists per Attachment 6.3.

APPLICABLE MODES:

**Fuel Cladding Modes 1-5
Reactor Coolant System Modes 1-5 (with fuel in the Reactor Vessel)
Containment T_{cold} greater than 210°F**

EMERGENCY CLASSIFICATION:

CAUTION

Protective Action Recommendations Required per EPIP-EOF-7.

GENERAL EMERGENCY

Attachment 6.1

EAL 3.1

CONTROL ROOM EVACUATION

EAL 3.1

VERIFICATION CRITERIA:

- 1. Control Room evacuation has occurred.**

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 3.2

EAL 3.2

**CONTROL ROOM EVACUATION
WITHOUT ESTABLISHING CONTROL OF SHUTDOWN
SYSTEMS WITHIN 15 MINUTES**

VERIFICATION CRITERIA:

1. Control Room evacuation has occurred.

AND

2. Alternate Shutdown capability **IS NOT** established at AI-179, Auxiliary Feedwater Panel, and AI-185, Alternate Shutdown Panel within fifteen (15) minutes of the decision to evacuate the Control Room.

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 4.1

LOSS OF OFFSITE POWER (345 KV AND 161 KV)

EAL 4.1

VERIFICATION CRITERIA:

1. Offsite power (345 KV and 161 KV) is not available to energize buses 1A3 and 1A4.

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 4.2

**BOTH DIESEL GENERATORS
NOT OPERABLE**

EAL 4.2

VERIFICATION CRITERIA:

1. **BOTH diesel generators ARE NOT operable per Technical Specifications.**

APPLICABLE MODES:

1-3
(RCS > 300°F)

EMERGENCY CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 4.3

EAL 4.3

**BUSSES 1A3 AND 1A4
ARE DEENERGIZED (\leq 15 MINUTES)**

VERIFICATION CRITERIA:

NOTE: Time should be allowed for automatic safety system actuation. Example: In the event of a loss of offsite power, allow time for the Diesel Generators automatically to start, come up to speed and load on busses 1A3 and 1A4 (10-20 seconds).

- 1. Busses 1A3 and 1A4 are deenergized for 15 minutes or less.**

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 4.4

LOSS OF BOTH 125 VDC BUSES (\leq 15 MINUTES)

EAL 4.4

VERIFICATION CRITERIA:

1. Loss of BOTH 125 VDC busses 1 AND 2 for 15 minutes or less.

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 4.5

EAL 4.5

**BUSSES 1A3 AND 1A4
ARE DEENERGIZED > 15 MINUTES**

VERIFICATION CRITERIA:

- 1. Busses 1A3 and 1A4 are deenergized for greater than 15 minutes.**

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 4.6

LOSS OF BOTH 125 VDC BUSES FOR > 15 MINUTES

EAL 4.6

VERIFICATION CRITERIA:

1. Loss of **BOTH** 125 VDC busses 1 **AND** 2 for greater than 15 minutes.

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 5.1

EAL 5.1

LOSS OF ALL STATE AND COUNTY NOTIFICATION SYSTEMS

VERIFICATION CRITERIA:

NOTE: For the purposes of this EAL, the Conference Operations Network (COP) should be considered lost when any one of the following agencies cannot be contacted via the COP system due to system failure:

- State of Nebraska
- State of Iowa
- Washington County
- Harrison County
- Pottawattamie County

1. **Loss of the Conference Operations Network (COP).**

AND

2. **Complete loss of the plant telephone system (Huntel and microwave).**

AND

3. **Loss of the NAWAS System.**

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 5.2

EAL 5.2

**UNPLANNED LOSS OF APPROXIMATELY 75%
OF ALL ANNUNCIATORS ASSOCIATED WITH
SAFETY SYSTEMS FOR > 15 MINUTES**

VERIFICATION CRITERIA:

1. Any unplanned loss of approximately 75% or more of all annunciators associated with safety systems listed in Attachment 1 to ARP-1 (Annunciator Response Procedure) has occurred for greater than 15 minutes.

AND

2. At least one channel of Quality Safety Parameter Display System (QSPDS) is available.

AND

3. In the opinion of the Shift Supervisor, the loss of the annunciators requires increased surveillance to safely operate the plant.

APPLICABLE MODES:

1-4

EMERGENCY CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 5.3

EAL 5.3

UNPLANNED LOSS OF APPROXIMATELY 75% OF ALL ANNUNCIATORS ASSOCIATED WITH SAFETY SYSTEMS FOR > 15 MINUTES WITH EITHER; (1) QSPDS IS NOT AVAILABLE, OR; (2) SIGNIFICANT TRANSIENT IN PROGRESS

VERIFICATION CRITERIA:

1. Any unplanned loss of approximately 75% or more of all annunciators associated with safety systems listed in Attachment 1 to ARP-1 (Annunciator Response Procedure) has occurred for greater than 15 minutes.

AND

2. Either of the following conditions exist:

- Both channels of the Quality Safety Parameter Display System (QSPDS) are NOT available.
- A significant transient is in progress (i.e., Reactor trip, SIAS or thermal power change of greater than 10 percent).

AND

3. In the opinion of the Shift Supervisor, the loss of the annunciators requires increased surveillance to safely operate the plant.
-

APPLICABLE MODES:

1-4

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 5.4

EAL 5.4

**INABILITY TO MONITOR A SIGNIFICANT
TRANSIENT IN PROGRESS**

VERIFICATION CRITERIA:

1. Any planned or unplanned loss of approximately 75% or more of all annunciators **associated** with safety systems listed in Attachment 1 to ARP-1 (Annunciator Response Procedure) has occurred for greater than 15 minutes.

AND

2. Both channels of the Quality Safety Parameter Display System (QSPDS) are **NOT** available.

AND

3. A significant plant transient is in progress (i.e., reactor trip, SIAS or thermal power change of greater than 10 percent).

APPLICABLE MODES:

1-4

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 6.1

FIRE OR EXPLOSION INSIDE THE PROTECTED AREA

EAL 6.1

VERIFICATION CRITERIA:

1. Any of the following:

- **Fire within the protected area fence which is not extinguished within 10 minutes of the Control Room Being notified that an actual fire exists.**
- **Explosion within the protected area resulting in visible damage to permanent structures or equipment.**

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 6.2

INOPERABLE FIRE SUPPRESSION WATER SYSTEM

EAL 6.2

VERIFICATION CRITERIA:

NOTE: The fire suppression water system shall not be considered inoperable during system testing, Jockey Pump maintenance or training (not to exceed 7 consecutive days).

1. **The Fire Suppression Water System is inoperable per SO-G-103, "Fire Protection Operability Criteria and Surveillance Requirements."**

AND

2. **The plant is not brought to the required Mode of Operation within the allowable time as required by the Action Statement in SO-G-103, "Fire Protection Operability Criteria and Surveillance Requirements."**

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 6.3

FIRE OR EXPLOSION AFFECTING ONE TRAIN OF ESF

EAL 6.3

VERIFICATION CRITERIA:

1. Fire or explosion causing potential or actual loss of a single train of ANY Engineered Safety Function.

AND

2. Any of the following:

- Affected system parameter indications (indicators, annunciators, etc.) show degraded performance.
- Plant personnel report visible damage (scorching, deformation, etc.) to safety system structures or equipment.

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 6.4

FIRE OR EXPLOSION AFFECTING BOTH TRAINS OF ESF

EAL 6.4

VERIFICATION CRITERIA:

1. A fire or explosion causing actual or potential loss of **BOTH** trains of **ANY** Engineered Safety Function.

AND

2. Any of the following:

- Affected system parameter indications (indicators, annunciators, etc.) show degraded performance to both trains.
- Plant personnel report visible damage (scorching, deformation, etc.) to safety system structures or equipment on both trains.

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 7.1

IRRADIATED FUEL ACCIDENT

EAL 7.1

VERIFICATION CRITERIA:

1. **An irradiated fuel assembly is dropped or otherwise observed to be damaged in the Spent Fuel Pool, Fuel Transfer Canal, Refueling Cavity, or Reactor Vessel (with the Reactor Vessel Head removed).**

AND

2. **One or more of the following occur as a result of the damage to the irradiated fuel assembly:**
 - **Rising radiation levels as indicated by portable radiation monitors or instruments near the damaged irradiated fuel assembly.**
 - **RM-073 Area Radiation Monitor (Containment above Transfer Canal) High Alarm**
 - **RM-085 or RM-087 Area Radiation Monitor (Auxiliary Building Spent Fuel Pool Area) High Alarm**
 - **RM-050 High Alarm**
 - **RM-051 High Alarm**
 - **RM-062 High Alarm**
 - **RM-052 High Alarm**

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 7.2

MAJOR IRRADIATED FUEL ACCIDENT

EAL 7.2

VERIFICATION CRITERIA:

1. **Major damage (large object damages fuel or water loss below fuel level) to an irradiated fuel assembly in the Spent Fuel Pool, Fuel Transfer Canal, Refueling Cavity, or Reactor Vessel (with the Reactor Vessel Head removed).**

AND

2. **Any area radiation monitor indicating greater than 1,000 TIMES normal as listed in the TDB Figure IV.8 as a result of the damage to the irradiated fuel assembly.**

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 8.1

**GASEOUS EFFLUENT PROCESS MONITORS
> HIGH ALARM SET POINT**

EAL 8.1

VERIFICATION CRITERIA:

1. Any one of the following Gaseous Process Monitors reading greater than the High Alarm Set point as listed in TDB Figure IV.7:
 - RM-052 (on the stack)
 - RM-062
 - RM-057
 - RM-043

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 8.2

LIQUID PROCESS MONITORS > HIGH ALARM SET POINT

EAL 8.2

VERIFICATION CRITERIA:

1. Any one of the following:

- RM-054A, Steam Generator Blowdown Monitor reading greater than the High Alarm Setpoint as listed in TDB Figure IV.7 and blowdown flow is not isolated.
- RM-054B, Steam Generator Blowdown Monitor reading greater than the High Alarm Setpoint as listed in TDB Figure IV.7 and blowdown flow is not isolated.
- RM-055, Overboard Discharge Header Monitor reading greater than the High Alarm Setpoint as listed in TDB Figure IV.7 and the overboard discharge flow is not isolated.

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 8.3

**GASEOUS EFFLUENT PROCESS MONITORS INDICATE
> TEN (10) TIMES HIGH ALARM SET POINT**

EAL 8.3

VERIFICATION CRITERIA:

1. Any one of the following Gaseous Process Monitors reading greater than TEN (10) times the High Alarm set point as listed in TDB Figure IV.7:
 - RM-052 (on the stack)
 - RM-062
 - RM-057
 - RM-043

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 8.4

EAL 8.4

**LIQUID EFFLUENT PROCESS MONITORS
> TEN (10) TIMES HIGH ALARM SET POINT**

VERIFICATION CRITERIA:

1. Any one of the following:

- **RM-054A, Steam Generator Blowdown Monitor reading greater than TEN (10) times the High Alarm Setpoint as listed in TDB Figure IV.7 and the blowdown flow is not isolated.**
- **RM-054B, Steam Generator Blowdown Monitor reading greater than TEN (10) times the High Alarm Setpoint as listed in TDB Figure IV.7 and the blowdown flow is not isolated.**
- **RM-055, Overboard Discharge Header Monitor reading greater than TEN (10) times the High Alarm Setpoint as listed in TDB Figure IV.7 and the overboard discharge flow is not isolated.**

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 8.5

EAL 8.5

**GENERAL AREA RADIATION READINGS INCREASE BY
A FACTOR OF 1,000 TIMES BACKGROUND**

VERIFICATION CRITERIA:

NOTE: The following Verification Criteria does not apply to temporary increases in radiation levels due to planned maintenance and outage events (e.g., movement of fuel, incore detectors, radwaste container, depleted resin, etc).

- 1. General area radiation levels are greater than 1,000 times the normal background radiation levels in the facility as indicated by either:**
 - **Area radiation monitors (per TDB Figure IV.8)**
 - **Field surveys**

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

ALERT

Attachment 6.1

EAL 8.6

EAL 8.6

**DOSE ASSESSMENTS CANNOT BE PERFORMED
AND EFFLUENT MONITORS EXCEED DEFAULT VALUES
FOR SITE AREA EMERGENCY**

VERIFICATION CRITERIA:

1. **Dose assessments cannot be performed per EPIP-EOF-6.**

AND

2. **Any one of the following effluent monitors: RM-052, RM-062, RM-063, RM-057, RM-064 and RM-043 exceeds the default values for Site Area Emergency as listed in TDB Figure IV.7, Table 2.**

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 8.7

EAL 8.7

**DOSE ASSESSMENT OR FIELD SURVEYS
INDICATE THAT DOSE RATES OR DOSES FOR SITE AREA EMERGENCY
ARE EXCEEDED AT SITE BOUNDARY**

VERIFICATION CRITERIA:

1. Any of the following:

- **Field survey results at or beyond the Site Boundary indicate a dose rate of 100 mRem/hr or greater.**
- **Analysis of field survey results indicate a thyroid dose commitment of 500 mRem Committed Dose Equivalent (CDE) in one hour.**

OR

2. Dose assessment calculations at or beyond the Site Boundary indicate any of the following:

- **100 mRem/hr or greater Total Effective Dose Equivalent (TEDE)**
- **500 mRem/hr or greater thyroid Committed Dose Equivalent (CDE)**

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 8.8

HIGH CONTAINMENT RADIATION > 6,500 R/hr

EAL 8.8

VERIFICATION CRITERIA:

1. Containment radiation levels greater than 6,500 R/hr.

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 8.9

EAL 8.9

**DOSE ASSESSMENTS OR FIELD SURVEYS INDICATE
THAT DOSE RATES OR DOSES FOR GENERAL EMERGENCY ARE
EXCEEDED AT SITE BOUNDARY**

VERIFICATION CRITERIA:

1. Any of the following:

- Field survey results at or beyond the Site Boundary indicate 1.0 Rem/hr or greater.
- Analysis of field survey results indicate a thyroid dose commitment of 5 Rem or greater Committed Dose Equivalent (CDE) in one hour.

OR

2. Dose assessment calculations indicate one of the following EPA Protective Action Guidelines are exceeded at or beyond the Site Boundary:

- 1.0 Rem or greater Total Effective Dose Equivalent (TEDE)
 - 5.0 Rem or greater to the thyroid (Committed Dose Equivalent - CDE)
-

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

CAUTION

Protective Action Recommendations Required per EPIP-EOF-7.

GENERAL EMERGENCY

Attachment 6.1

EAL 8.10

HIGH CONTAINMENT RADIATION > 20,000 R/hr

EAL 8.10

VERIFICATION CRITERIA:

1. **Containment radiation levels greater than 20,000 R/hr.**

APPLICABLE MODES:

1-5

CLASSIFICATION:

CAUTION

Protective Action Recommendations Required per EPIP-EOF-7.

GENERAL EMERGENCY

Attachment 6.1

EAL 9.1

EAL 9.1

**CIVIL DISTURBANCE ON OWNER CONTROLLED
PROPERTY REQUIRING OFFSITE LAW ENFORCEMENT
OR RESULTING IN MEDIA COVERAGE**

VERIFICATION CRITERIA:

1. A civil disturbance is taking place on Fort Calhoun Station's Owner Controlled Property requiring offsite law enforcement response or resulting in media coverage.

AND

2. In the judgement of the Command and Control position the situation warrants increased awareness by plant staff or government authorities.

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTE: Shift Security Supervisor should be consulted for security events.

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 9.2

EAL 9.2

CREDIBLE SITE-SPECIFIC THREAT

VERIFICATION CRITERIA:

1. Security Department has verified and has informed the Control Room that a Credible Site-Specific Threat exists to Fort Calhoun Station.

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTE: Shift Security Supervisor should be consulted for security events.

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 9.3

EAL 9.3

**CONFIRMED HOSTAGE SITUATION OCCURRING
IN THE PROTECTED AREA, BUT OUTSIDE OF THE VITAL AREAS**

VERIFICATION CRITERIA:

- 1. A confirmed hostage situation is occurring in the Protected Area, but outside of the Vital Areas.**

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTE: Shift Security Supervisor should be consulted for security events.

ALERT

Attachment 6.1

EAL 9.4

EAL 9.4

**CONFIRMED BOMB/SABOTAGE DEVICE DETECTED
IN THE PROTECTED AREA, BUT OUTSIDE THE VITAL AREAS**

VERIFICATION CRITERIA:

1. A confirmed bomb/sabotage device has been detected (found) in the Protected Area, but outside of the Vital Areas.

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTE: Shift Security Supervisor should be consulted for security events.

ALERT

Attachment 6.1

EAL 9.5

CONFIRMED PROTECTED AREA INTRUSION

EAL 9.5

VERIFICATION CRITERIA:

- 1. A confirmed Protected Area intrusion is occurring, but Vital Areas are not affected.**

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTE: Shift Security Supervisor should be consulted for security events.

ALERT

Attachment 6.1

EAL 9.6

EAL 9.6

**CONFIRMED ARMED ATTACK INSIDE
THE PROTECTED AREA**

VERIFICATION CRITERIA:

- 1. A confirmed armed attack is occurring inside the Protected Area.**

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTE: Shift Security Supervisor should be consulted for security events.

ALERT

Attachment 6.1

EAL 9.7

EAL 9.7

CONFIRMED HOSTAGE SITUATION IN A VITAL AREA

VERIFICATION CRITERIA:

1. A confirmed hostage situation is occurring in a Vital Area.

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTE: Shift Security Supervisor should be consulted for security events.

SITE AREA EMERGENCY

Attachment 6.1

EAL 9.8

EAL 9.8

CONFIRMED BOMB/SABOTAGE DEVICE DETECTED IN A VITAL AREA

VERIFICATION CRITERIA:

1. A confirmed bomb/sabotage device has been detected in a Vital Area.

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTE: Shift Security Supervisor should be consulted for security events.

SITE AREA EMERGENCY

Attachment 6.1

EAL 9.9

EAL 9.9

CONFIRMED VITAL AREA INTRUSION

VERIFICATION CRITERIA:

1. A confirmed Vital Area intrusion is occurring.

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTE: Shift Security Supervisor should be consulted for security events.

SITE AREA EMERGENCY

Attachment 6.1

EAL 9.10

EAL 9.10

CONFIRMED ARMED ATTACK OCCURS INSIDE A VITAL AREA

VERIFICATION CRITERIA:

1. A confirmed armed attack occurs inside a Vital Area.

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTE: Shift Security Supervisor should be consulted for security events.

SITE AREA EMERGENCY

Attachment 6.1

EAL 9.11

EAL 9.11

**CONFIRMED ARMED ATTACK RESULTS IN A PHYSICAL
LOSS OF CONTROL TO THE CONTROL ROOM,
OR TO AI-179 (AUXILIARY FEEDWATER PANEL)
OR TO AI-185 (ALTERNATE SHUTDOWN PANEL)**

VERIFICATION CRITERIA:

1. **A confirmed armed attack results in a physical loss of control to any of the following:**
 - **Control Room**
 - **AI -179 (AUXILIARY FEEDWATER PANEL)**
 - **AI -185 (ALTERNATE SHUTDOWN PANEL)**
-

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTE: Shift Security Supervisor should be consulted for security events.

CAUTION

Protective Action Recommendations Required per EPIP-EOF-7.

GENERAL EMERGENCY

Attachment 6.1

EAL 10.1

TORNADO OR EARTHQUAKE ONSITE

EAL 10.1

VERIFICATION CRITERIA:

1. **Any of the Following:**

- **Tornado has struck onsite (owner controlled property).**
- **Earthquake is felt in-plant or the "STRONG MOTION SEISMIC EVENT IN PROGRESS" alarm (valid) is actuated.**

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 10.2

EAL 10.2

**LOW RIVER LEVEL
(\leq 978 FEET; BUT $>$ 976 FEET, 9 INCHES)**

VERIFICATION CRITERIA:

- 1. River level is less than or equal to 978 feet, but greater than 976 feet, 9 inches.**

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 10.3

EAL 10.3

**HIGH RIVER LEVEL
(> 1,004 FEET BUT ≤ 1,009 FEET)**

VERIFICATION CRITERIA:

1. River level is greater than 1,004 feet; but is less than or equal to 1,009 feet.

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 10.4

EAL 10.4

**TORNADO OR EARTHQUAKE
CAUSING DAMAGE TO VITAL AREAS**

VERIFICATION CRITERIA:

1. Any of the following:

- Tornado causes damage to any plant Vital Area.
- Earthquake causes damage to any plant Vital Area.

APPLICABLE MODES:

1-5

CLASSIFICATION:

ALERT

Attachment 6.1

EAL 10.5

EAL 10.5

**LOW RIVER LEVEL
(\leq 976 FEET, 9 INCHES; BUT $>$ 973 FEET, 9 INCHES)**

VERIFICATION CRITERIA:

1. River level less than or equal to 976 feet, 9 inches but greater than 973 feet, 9 inches.

APPLICABLE MODES:

1-5

CLASSIFICATION:

ALERT

Attachment 6.1

EAL 10.6

EAL 10.6

**HIGH RIVER LEVEL
($> 1,009$ FEET; BUT $\leq 1,014$ FEET)**

VERIFICATION CRITERIA:

- 1. River level is greater than 1,009 feet; but is less than or equal to 1,014 feet.**

APPLICABLE MODES:

1-5

CLASSIFICATION:

ALERT

Attachment 6.1

EAL 10.7

EAL 10.7

**LOW RIVER LEVEL
(\leq 973 FEET, 9 INCHES)**

VERIFICATION CRITERIA:

1. **River level is less than or equal to 973 feet, 9 inches.**

APPLICABLE MODES:

1-5

CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 10.8

**HIGH RIVER LEVEL
(>1,014 FEET)**

EAL 10.8

VERIFICATION CRITERIA:

- 1. River level is greater than 1,014 feet.**

APPLICABLE MODES:

1-5

CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 11.1

EAL 11.1

**AIRCRAFT CRASH or TRAIN DERAILMENT,
TOXIC or FLAMMABLE GAS AFFECTING
THE OWNER CONTROLLED PROPERTY**

VERIFICATION CRITERIA:

1. One or more of the following situations has occurred:
 - Aircraft crash occurs onsite (owner controlled property)
 - Train crash or derailment occurs onsite (owner controlled property)
 - Any uncontrolled toxic or flammable gas release posing a fire, explosion or significant health hazard that has the potential of restricting the operating staff from fulfilling their duties required for safe operation/shutdown of the plant.

AND

2. In the judgement of the Command and Control position; the situation represents a potential degradation of the level of safety of the plant or a significant danger to onsite personnel.

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 11.2

EAL 11.2

**INABILITY TO REACH REQUIRED OPERATING MODE OR
POWER REDUCTION WITHIN TIME LIMITS
PER TECHNICAL SPECIFICATIONS**

VERIFICATION CRITERIA:

CAUTION

IF Reactor Coolant Activity exceeds Technical Specification limits, THEN go to EAL 1.1.

CAUTION

IF both Diesel Generators are not operable, THEN go to EAL 4.2.

- 1. The plant is not brought to the required Mode of Operation within the allowable time as required by a Technical Specification Limiting Condition for Operation Action Statement.**

OR

- 2. Power is not reduced to the required level within the allowable time as required by a Technical Specification Limiting Condition for Operation Action Statement.**

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 11.3
(AR 7987)

EAL 11.3
(AR 7987)

LOSS OR DEGRADATION OF INSTRUMENT AIR SYSTEM

VERIFICATION CRITERIA:

1. Instrument air system pressure less than 50 psig.

OR

2. Indication of significant amounts of water in the instrument air system that has caused or would have the potential to cause failure of any safety system.

APPLICABLE MODES:

1-2

CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 11.4

EAL 11.4

**PLANT CONDITIONS WARRANT INCREASED
AWARENESS BY PLANT STAFF OR GOVERNMENT AUTHORITIES**

VERIFICATION CRITERIA:

NOTE: Notification of Unusual Event is defined as: "Unusual events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs."

Purpose: 1. To assure that the first step in any response, determined to be necessary in the judgement of a command and control position, has been carried out.
2. To bring the operating staff to a state of readiness.
3. Provide systematic handling of unusual events information and decision making.

1. Any plant condition exists that warrants increased awareness on the part of a plant operating staff or state authorities.

OR

2. An event is in progress or has occurred which indicates a potential degradation of the level of safety of the plant.

APPLICABLE MODES:

1-5

CLASSIFICATION:

NOTIFICATION OF UNUSUAL EVENT

Attachment 6.1

EAL 11.5

EAL 11.5

**AIRCRAFT CRASH, MISSILES, TURBINE FAILURE,
TOXIC or FLAMMABLE GAS AFFECTING THE PROTECTED AREA**

VERIFICATION CRITERIA:

1. Any of the following situations has occurred:

- Aircraft crash occurs in the Protected Area with no known damage to a vital area.
- A missile impact in the Protected Area from whatever source.
- Turbine failure causing a turbine casing penetration resulting in personnel injury or affecting the operation of a safety system.
- Any uncontrolled toxic or flammable gas release posing a fire, explosion or significant health hazard that has restricted the operating staff from fulfilling their duties as required for safe operation/shutdown of the plant.

APPLICABLE MODES:

1-5

CLASSIFICATION:

ALERT

Attachment 6.1

EAL 11.6

EAL 11.6

**PLANT CONDITIONS INVOLVE ACTUAL
OR POTENTIAL SUBSTANTIAL DEGRADATION OF THE
LEVEL OF SAFETY OF THE PLANT**

VERIFICATION CRITERIA:

NOTE: Alert is defined as: "Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels."

- Purpose:
1. To assure that emergency personnel are readily available to respond if the situation becomes more serious or to perform confirmatory radiation monitoring if required.
 2. Provide offsite authorities current status information.

1. **Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant.**

APPLICABLE MODES:

1-5

CLASSIFICATION:

ALERT

Attachment 6.1

EAL 11.7

EAL 11.7

**PLANT CONDITIONS WARRANT ACTIVATION
OF ALL EMERGENCY FACILITIES**

VERIFICATION CRITERIA:

NOTE: Site Area Emergency is defined as: "Events are in progress or have occurred which involve actual or likely major failures of the plant functions needed for protection of the public. Any releases are not expected to exceed EPA Emergency Action Guideline exposure levels except near the site boundary."

- Purpose:
1. To assure that response centers are manned.
 2. To assure that monitoring teams are dispatched.
 3. To assure that offsite personnel required for evacuation of near-site areas are at duty stations if situation becomes more serious.
 4. To provide consultation with offsite authorities.
 5. To provide updates for the public through offsite authorities.

1. **Any plant condition exists that warrants activation of emergency facilities and monitoring teams or a precautionary notification to the public near the site.**

OR

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

APPLICABLE MODES:

1-5

CLASSIFICATION:

SITE AREA EMERGENCY

Attachment 6.1

EAL 11.8

EAL 11.8

ANY CORE MELT SITUATION

VERIFICATION CRITERIA:

NOTE: General Emergency is defined as: "Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with the potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite."

- Purpose:
1. To initiate predetermined protective actions for the public.
 2. To provide continuous assessments of information from licensee and offsite organization measurements.
 3. To initiate additional measures as indicated by actual or potential releases.
 4. To provide consultation with offsite authorities.
 5. To provide updates for the public through offsite authorities.

1. **Any other plant condition exists, from whatever source, that makes a release of large amounts of radioactivity in a short time period possible. Any core melt situation.**

OR

2. **Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity.**
-

APPLICABLE MODES:

1-5

EMERGENCY CLASSIFICATION:

CAUTION

Protective Action Recommendations Required per EPIP-EOF-7.

GENERAL EMERGENCY

Attachment 6.2 - Emergency Action Levels (EALs)

KEY PARAMETER	FISSION PRODUCT BARRIERS	SECONDARY COOLANT SYSTEM	ENGINEERED SAFEGUARDS	STATION POWER	PHONES/ANNUNCIATORS
<p>NOTIFICATION OF UNUSUAL EVENT</p> <p>Unusual events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs (AR 7987)</p>	<p>1.1 RCS Radioactivity Exceeds Technical Specification Limits.</p> <p>1.2 Unidentified RCS Leakage > 10 gpm or Primary to Secondary Leakage > 10 gpm or Total RCS Leakage > 25 gpm.</p>	<p>2.1 Uncontrolled Steam Generator Heat Extraction.</p> <p>2.2 RM-057 (Condenser Off-Gas) > High Alarm.</p> <p>2.3 Primary to Secondary Leakage > 10 gpm.</p>		<p>4.1 Loss of Offsite Power (345 KV and 161 KV).</p> <p>4.2 Both Diesel Generators Not Operable.</p>	<p>5.1 Loss Of All State and County Notification Systems.</p> <p>5.2 Unplanned Loss of Approximately 75% of All Annunciators Associated with Safety Systems For > 15 Minutes.</p>
<p>ALERT</p> <p>Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels (AR 7987)</p>	<p>1.3 RCS Dose Equivalent Iodine-131 >180 µCi/gm.</p> <p>1.4 RCS Leakage >40 gpm.</p> <p>1.5 Automatic OR a Manual Reactor Trip Was <u>NOT</u> Successful.</p> <p>1.6 Containment Pressure Approaching 60 psig.</p> <p>1.7 Containment Hydrogen Concentration > 3.0%.</p> <p>1.8 Containment Pressure >5 psig With High Radiation.</p> <p>1.9 Failure/Challenge to ONE (1) Fission Product Barrier.</p> <p>1.10 Loss of Shutdown Cooling or Loss of Shutdown Margin.</p>	<p>2.4 Primary to Secondary Leakage > 10 gpm with an Ongoing Release.</p> <p>2.5 Primary to Secondary Leakage > 40 gpm.</p> <p>2.6 Loss of All Feedwater.</p>	<p>3.1 Control Room Evacuation.</p>	<p>4.3 Busses 1A3 and 1A4 are Deenergized (<15 Minutes).</p> <p>4.4 Loss of Both 125 VDC Busses (< 15 Minutes).</p>	<p>5.3 Unplanned Loss of Approximately 75% of All Annunciators Associated with Safety Systems For > 15 Minutes with either; (1) QSPDS is Not Available, or; (2) Significant Transient in Progress.</p>
<p>SITE AREA EMERGENCY</p> <p>Events are in progress or have occurred which involve actual or likely major failures of the plant functions needed for protection of the public. Any releases are not expected to exceed EPA Emergency Action Guideline exposure levels except near the site boundary (AR 7987)</p>	<p>1.11 RCS Leakage >40 gpm and RCS Pressure Continues to Lower After HPSI Injection Begins.</p> <p>1.12 Dose Equivalent Iodine-131 >180 µCi/gm with Inadequate Core Cooling.</p> <p>1.13 Failure/Challenge to TWO (2) Fission Product Barriers.</p> <p>1.14 Both Automatic AND Manual Reactor Trips Were <u>NOT</u> Successful.</p> <p>1.15 Loss of Any Function Needed for Plant Hot Shutdown.</p>	<p>2.7 Primary to Secondary Leakage > 40 gpm with an Ongoing Release.</p> <p>2.8 Loss of All Feedwater and "Once Through Cooling" Required.</p>	<p>3.2 Control Room Evacuation Without Establishing Control of Shutdown Systems Within 15 Minutes.</p>	<p>4.5 Busses 1A3 and 1A4 are Deenergized > 15 Minutes.</p> <p>4.6 Loss of Both 125 VDC Busses For >15 Minutes.</p>	<p>5.4 Inability to Monitor a Significant Transient in Progress.</p>
<p>GENERAL EMERGENCY</p> <p>Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with the potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite (AR 7987)</p>	<p>1.16 Imminent Core Uncovery with Containment Failure or Challenge.</p> <p>1.17 Failure/Challenge to THREE (3) Fission Product Barriers.</p> <p>1.18 Automatic and Manual Reactor Trips AND Emergency Boration Were <u>NOT</u> Successful AND Core Cooling is Inadequate.</p>	<p>2.9 Primary to Secondary Leakage > 40 gpm with an Ongoing Release and Dose Equivalent Iodine-131 > 180 µCi/gm.</p> <p>2.10 Loss of All Feedwater with Fuel Cladding and Containment Failure or Challenge.</p>			

Attachment 6.2 - Emergency Action Levels (EALs)

KEY PARAMETER	FIRE / EXPLOSION	FUEL HANDLING	RADIOLOGICAL EFFLUENTS	SECURITY EVENTS	NATURAL PHENOMENA	OTHER HAZARDS
<p>NOTIFICATION OF UNUSUAL EVENT</p> <p>Unusual events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs. (AR 7987)</p>	<p>6.1 Fire or Explosion Inside the Protected Area.</p> <p>6.2 Inoperable Fire Suppression Water System.</p>		<p>8.1 Gaseous Effluent Process Monitors > High Alarm Set Point.</p> <p>8.2 Liquid Process Monitors > High Alarm Set Point.</p>	<p>9.1 Civil Disturbance on Owner Controlled Property Requiring Offsite Law Enforcement or Resulting in Media Coverage.</p> <p>9.2 Credible Site-Specific Threat</p>	<p>10.1 Tornado or Earthquake Onsite.</p> <p>10.2 Low River Level (< 978 Feet; but > 976 Feet, 9 inches).</p> <p>10.3 High River Level (> 1004 Feet but < 1009 Feet).</p>	<p>11.1 Aircraft Crash or Train Derailment, Toxic or Flammable Gas Affecting the Owner Controlled Property.</p> <p>11.2 Inability to Reach Required Operating Mode or Power Reduction within Time Limits per Technical Specifications.</p> <p>11.3 Loss or Degradation of Instrument Air System.</p> <p>11.4 Plant Conditions Warrant Increased Awareness by Plant Staff or Government Authorities.</p>
<p>ALERT</p> <p>Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels. (AR 7987)</p>	<p>6.3 Fire or Explosion Affecting One Train of ESF.</p>	<p>7.1 Irradiated Fuel Accident.</p>	<p>8.3 Gaseous Effluent Process Monitors Indicate > TEN (10) Times High Alarm Set Point.</p> <p>8.4 Liquid Effluent Process Monitors > TEN (10) Times High Alarm Set Point.</p> <p>8.5 General Area Radiation Readings Increase by a Factor of 1,000 Times Background.</p>	<p>9.3 Confirmed Hostage Situation Occurring in the Protected Area, but Outside of the Vital Areas.</p> <p>9.4 Confirmed Bomb/Sabotage Device Detected in the Protected Area, but Outside the Vital Areas.</p> <p>9.5 Confirmed Protected Area Intrusion.</p> <p>9.6 Confirmed Armed Attack Inside the Protected Area.</p>	<p>10.4 Tornado or Earthquake Causing Damage to Vital Areas.</p> <p>10.5 Low River Level (< 976 Feet, 9 inches; but > 973 Feet, 9 inches).</p> <p>10.6 High River Level (> 1009 Feet but < 1014 Feet).</p>	<p>11.5 Aircraft Crash, Missiles, Turbine Failure, Toxic or Flammable Gas Affecting the Protected Area.</p> <p>11.6 Plant Conditions Involve Actual or Potential Substantial Degradation of the Level of Safety of the Plant.</p>
<p>SITE AREA EMERGENCY</p> <p>Events are in progress or have occurred which involve actual or likely major failures of the plant functions needed for protection of the public. Any releases are not expected to exceed EPA Emergency Action Guideline exposure levels except near the site boundary. (AR 7987)</p>	<p>6.4 Fire or Explosion Affecting Both Trains of ESF.</p>	<p>7.2 Major Irradiated Fuel Accident.</p>	<p>8.6 Dose Assessments Cannot be Performed and Effluent Monitors Exceed Default Values For Site Area Emergency.</p> <p>8.7 Dose Assessments or Field Surveys Indicate that Dose Rates or Doses for Site Area Emergency are Exceeded at Site Boundary.</p> <p>8.8 High Containment Radiation > 6,500 R/hr.</p>	<p>9.7 Confirmed Hostage Situation in a Vital Area.</p> <p>9.8 Confirmed Bomb/Sabotage Device Detected in a Vital Area.</p> <p>9.9 Confirmed Vital Area Intrusion.</p> <p>9.10 Confirmed Armed Attack Occurs Inside a Vital Area.</p>	<p>10.7 Low River Level (< 973 Feet, 9 inches).</p> <p>10.8 High River Level (>1014 Feet).</p>	<p>11.7 Plant Conditions Warrant Activation of All Emergency Facilities.</p>
<p>GENERAL EMERGENCY</p> <p>Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with the potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite. (AR 7987)</p>			<p>8.9 Dose Assessments or Field Surveys Indicate that Dose Rates or Doses for General Emergency are Exceeded at Site Boundary.</p> <p>8.10 High Containment Radiation > 20,000 R/hr.</p>	<p>9.11 Confirmed Armed Attack Results in a Physical Loss of Control to the Control Room, or to AI-179 (Auxiliary Feedwater Panel) or to AI-185 (Alternate Shutdown Panel).</p>		<p>11.8 Any Core Melt Situation.</p>

Attachment 6.3 - Three Fission Product Barrier Criteria		
FUEL CLADDING	REACTOR COOLANT SYSTEM	CONTAINMENT
Applicable Modes: 1-5	Applicable Modes: 1-5 (with fuel in the Reactor Vessel)	Applicable Modes: T_{cold} greater than 210 °F
F1 RCS Dose Equivalent I-131 sample is >180 µCi/gm.	R1 Reactor Coolant System leakage >40 gpm.	C1 Any failure of the Containment, its penetrations, isolation valves, connections and piping extensions up to the outer isolation valve AND a release pathway exists to the environment.
F2 Containment Area Monitor(s) reading >6,500 R/hr. NOTE 1	R2 Containment Area Monitor(s) reading >40 R/hr.	C2 Containment hydrogen concentration >3%.
F3 Any valid CET temperature >1,000°F. NOTE 1	R3 Reactor Coolant System pressure >2,750 psia.	C3 Containment pressure >60 psig.
F4 Representative CET temperatures >950°F and rising. NOTE 1	R4 Containment pressure >5 psig AND any valid containment Area Radiation Monitor indication of 1000 times the normal values listed in TDB Figure IV.8.	C4 Containment Integrity, as defined by Technical Specifications, is not present during an unplanned transient AND the potential exists for a loss of the Fuel Cladding or the Reactor Coolant System Barriers.
F5 Failure of the Reactor Protective System to trip the reactor upon reaching a Limiting Safety System Set point.	R5 "Once-through-Cooling" as required per AOP-19/AOP-28/EOP-6/EOP-20.	C5 Any condition in the opinion of the Command and Control position that indicates a challenge or loss of the Containment Fission Product Barrier.
F6 RVLMS indicates 0.0% level with fuel in the Reactor Vessel. NOTE 1	R6 Any condition in the opinion of the Command and Control position that indicates a challenge or loss of the Reactor Coolant System Fission Product Barrier.	
F7 Any condition in the opinion of the Command and Control position that indicates a challenge or loss of the Fuel Clad Fission Product Barrier. NOTE 1		

NOTE 1: The Severe Accident Management Guidelines should be entered when these parameters are met or exceeded.

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FC-EPF-3	Administration of Potassium Iodide Tablets	R1 11-07-00
FC-EPF-4 NCR	Radiological Emergency Team Briefing Checklist	R2 12-13-94
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FC-EPF-6	Estimated Exposure Worksheet	R4 11-07-00
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FC-EPF-17	Pager Response Follow Up Questionnaire	R3 11-06-99
FC-EPF-19	Process and Area Monitor Locations	R6 09-01-94
FC-EPF-20	Site Boundary/Owner Control Area	R1 07-29-97
FC-EPF-21	Fort Calhoun Station Sector Map	R2 05-15-97
FC-EPF-27	Onsite/Offsite Dose Comparison Data Record (Using Eagle Program)	R3 11-07-00
FC-EPF-29	Estimation of Unmonitored Release Rates	R1 12-30-93
FC-EPF-31	$\Delta T / \Delta \theta$ Stability Class Chart	R2 03-14-02

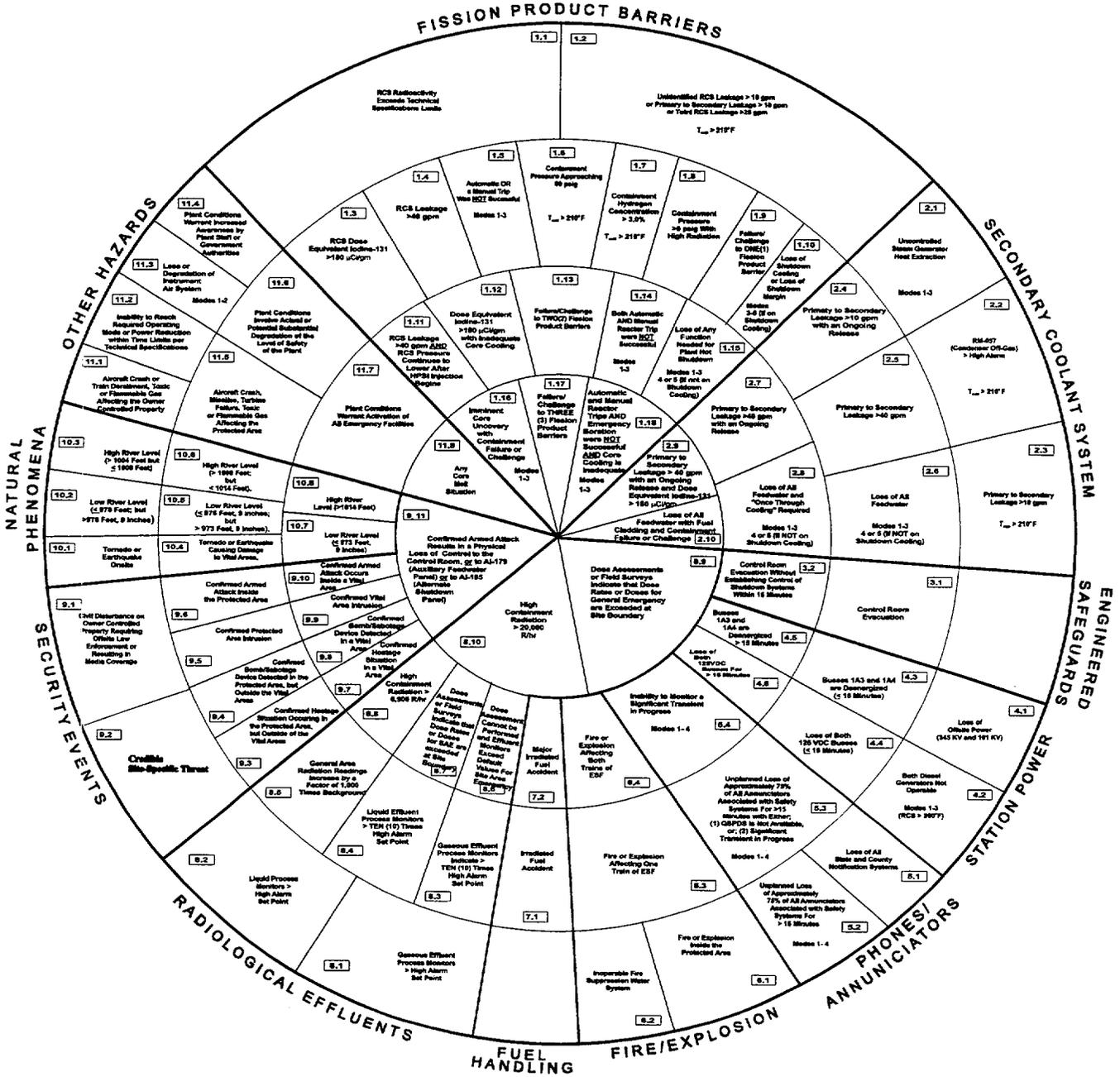
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FC-EPF**

FC-EPF-32	Area Monitor Trending	R0	06-10-93
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FC-EPF-35	Iowa EOC Route Map (double-sided)	R0	06-21-94
FC-EPF-36	Briefing Guidelines	R3	10-22-01
FC-EPF-37	Operations Liaison Out of Service Equipment List	R0	07-11-95
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FC-EPF-42	Emergency Action Levels	R1	05-02-02
FC-EPF-43	Update Report to Offsite Authorities	R0	11-29-01

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EMERGENCY ACTION LEVELS



UNUSUAL EVENT
ALERT
SITE AREA EMERGENCY
GENERAL EMERGENCY
(EALs are MODES 1-5 Applicable, Except as noted)