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Waterford 3

W3F1-2000-0098
A4.05
PR

July 25, 2000

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

Subject: Waterford 3 SES
Docket No. 50-382
License No. NPF-38
Emergency Plan Implementing Procedure

Gentlemen:

In accordance with Appendix E of 10CFR50 and 10CFR50.4(b)(5), Entergy is submitting the enclosed revision to one Waterford 3 Emergency Plan Implementing Procedure. This change was reviewed in accordance with 10CFR50.54(q) requirements and was determined not to decrease the effectiveness of the emergency plan.

This letter does not contain any commitments.

Included in this submittal are the changes for the following procedure:

1. EP-001-001 (Revision 19), Recognition and Classification of Emergency Conditions. The changes made are to add guidance from NUREG-1022 regarding classification of rapidly concluded events and clarification of Initiating Condition B/UE/III.

Please note that this revision contains changes, which have been incorporated in Revision 25, Change 1 of the Emergency Plan. The Emergency Plan change is being submitted under a separate cover.

A045

Emergency Plan Implementing Procedure
W3F1-2000-0098
Page 2
July 25, 2000

Should you have any questions concerning this procedure, please contact
J.J. Lewis, Emergency Planning Manager, at (504) 739-6185.

Very truly yours,



E.P. Perkins
Director,
Nuclear Safety Assurance

EPP/DCM/rtk
Enclosure: EP-001-001, Revision 19

cc: (w/Enclosure)
E.W. Merschoff, NRC Region IV (2 copies)

(w/o Enclosure)
N. Kalyanam, NRC-NRR
W.A. Maier, NRC Region IV
J. Smith
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NRC Resident Inspectors Office

REQUEST/APPROVAL PAGE

SAFETY RELATED

Required Review Level (check one)

- PORC
 QUALIFIED REVIEWER

PROCEDURE NUMBER: EP-001-001 REVISION: 19 CHANGE: 0

TITLE: Recognition and Classification of Emergency Conditions

EFFECTIVE DATE/MILESTONE: _____
(N/A if Same as Approval Date)

PROCEDURE OWNER: Emergency Planning Manager
(Position Title)

PREPARER (Print Name / Initial): A.S. Lubinski 1 ASL DATE: 06/08/00

ACTION:

- New Procedure
 Deletion
 Revision
 Change

EC? _____
(Applicable LI-101 Step Numbers)

Deviation Expiration Date/Milestone: _____
 Temporary Procedure Applicable Conditions: _____

DESCRIPTION AND JUSTIFICATION OF CHANGE:

Reformatted procedure and designated it as Safety Related in accordance with W2.109 and W2.110. Changed "Shift Supervisor" to "Shift Manager" throughout the procedure. Updated the Reference Section by deleting OP-903-024 and adding NUREG-1022 and UNT-006-010. Deleted the NOTE prior to Step 5.2.2 since it was redundant to the Procedure Steps. Added guidance for rapidly concluded events in accordance with NUREG-1022. Changed the wording on Attachment 7.1, TAB B, IC B/UE/III to clarify the intent this Emergency Action Level.

Request/Approval Page Continuation Sheet(s) attached.

EC SUPERVISOR	APPROVAL:	<u>NA</u>	DATE:	<u>NA</u>
50.59 REVIEWER	Required? <input checked="" type="checkbox"/>	REVIEW:	<u>Michael P. Shuckey</u>	DATE: <u>6-31-00</u>
50.54 REVIEWER	Required? <input checked="" type="checkbox"/>	REVIEW:	<u>Michael P. Shuckey</u>	DATE: <u>6-31-00</u>
TECHNICAL REVIEWER		REVIEW:	<u>Michael P. Shuckey</u>	DATE: <u>6-31-00</u>

Change Notice (CN)?

CHANGE NOTICE (CN) SUPERVISOR	APPROVAL:	<u>NA</u>	DATE:	_____
CHANGE NOTICE (CN) ON-SHIFT SS/CRS	APPROVAL:	<u>NA</u>	DATE:	_____

Final Approval Due By: _____

QUALIFIED REVIEWER	Required? <input type="checkbox"/>	REVIEW:	DATE:	_____
GROUP/DEPT. HEAD	REVIEW <input checked="" type="checkbox"/> or APPROVAL <input type="checkbox"/>	<u>By Pung to JJ Lewis</u>	DATE:	<u>6/21/00</u>
GM, PLANT OPERATIONS	REVIEW <input type="checkbox"/> or APPROVAL <input checked="" type="checkbox"/>	<u>see PORC comment</u>	DATE:	_____
VICE PRESIDENT, OPERATIONS	APPROVAL:	_____	DATE:	_____

CONTROLLED

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TABLE OF CONTENTS

1.0 PURPOSE -----2
2.0 REFERENCES -----2
3.0 RESPONSIBILITIES -----3
4.0 INITIATING CONDITIONS -----4
5.0 PROCEDURE -----5
 5.1 Definitions -----5
 5.2 Classification -----6
6.0 FINAL CONDITIONS -----8
7.0 ATTACHMENTS -----8
 7.1 Emergency Categories -----9
8.0 RECORDS -----8

LIST OF EFFECTIVE PAGES

1-8	Revision 19
10-27	Revision 18
9	Revision 17

1.0 PURPOSE

- 1.1 This procedure describes the immediate actions to be taken to recognize and classify the four emergency classifications: Unusual Event, Alert, Site Area Emergency, and General Emergency.

2.0 REFERENCES

- 2.1 Waterford 3 SES Emergency Plan
- 2.2 Title 10, Code of Federal Regulations Part 50, Appendix E
- 2.3 NUREG-0654/FEMA-REP-1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants
- 2.4 Waterford 3 SES Final Safety Analysis Report
- 2.5 EP-001-010, Unusual Event
- 2.6 EP-001-020, Alert
- 2.7 EP-001-030, Site Area Emergency
- 2.8 EP-001-040, General Emergency
- 2.9 EP-002-015, Emergency Responder Activation
- 2.10 EP-002-052, Protective Action Guidelines
- 2.11 EP-002-150, Emergency Plan Implementing Records
- 2.12 Waterford 3 Emergency Action Level Basis Document
- 2.13 NUMARC/NESP-007, Methodology for Development of Emergency Action Levels
- 2.14 NUREG-1022, Event Reporting Guidelines: 10CFR50.72 and 50.73
- 2.15 UNT-006-010, Event Notification and Reporting

3.0 RESPONSIBILITIES

- 3.1 The Emergency Coordinator (EC) is responsible for implementation of this procedure
- 3.2 The Emergency Coordinator (EC) is responsible for declaration of the appropriate emergency classification whenever, in his judgment, the station status warrants such a declaration.
- 3.3 The Shift Manager shall assume the responsibility and authority of the Emergency Coordinator (EC) until such time that he is properly relieved of this duty by the Duty Plant Manager.
- 3.4 If the Shift Manager cannot immediately assume the duty of Emergency Coordinator, then the Control Room Supervisor (CRS) shall assume the duty of Emergency Coordinator until properly relieved by the Duty Plant Manager or Shift Manager.
- 3.5 When the EOF is activated and responsibilities are transferred, then the EOF Director is responsible for implementation of this procedure and declaration of the appropriate emergency classification whenever, in his judgment, the station status warrants such a declaration.

4.0 INITIATING CONDITIONS

- 4.1 An off-normal event has occurred or is in progress.

NOTE

This instruction does not replace any plant operating procedure. Ensure that any immediate actions (for example, use of Emergency Procedures) are taken for the proper operation of the plant. During an emergency condition, continue to use the appropriate plant procedures in parallel with this instruction.

- 4.2 An action step in a plant procedure refers to this instruction for classification of the indicated plant conditions.

5.0 PROCEDURE

NOTE

If the off normal condition is a toxic chemical release, on or off site, which may affect the operation of the plant and/or the safety of station personnel, then do not use this procedure. Implement EP-004-010.

5.1 Definitions

- 5.1.1 **Emergency Classification** - The grouping of emergency situations into four (4) mutually exclusive categories, allowing for proper emergency response: Unusual Event, Alert, Site Area Emergency, General Emergency.
- 5.1.2 **Initiating Condition (IC)** - A predetermined subset of conditions or values that when met or exceeded requires implementation of the Emergency Plan. ICs are printed on a yellow background in Attachment 7.1.
- 5.1.3 **Indicators** - Specific conditions, instrument readings or other values provided with an associated IC to provide assistance in interpreting or clarifying the IC. Indicators are merely assistance tools. They are not provided as the sum total of all conditions whereby a particular IC is met or exceeded. Where several indicators are listed for a particular IC, they are treated as if separated by an "or".

5.2 Classification

5.2.1 Verify the off-normal event to ensure that the event is real.

5.2.2 Match the off-normal event with one of the following five emergency categories:

5.2.2.1 Radioactive Releases/High Radiation Levels TAB A

5.2.2.2 RCS Leakage/Degraded Core Conditions TAB B

5.2.2.3 Loss of Safety Functions TAB C

5.2.2.4 Hazards and Other Conditions Affecting Plant Safety TAB D

5.2.2.5 Miscellaneous TAB E

5.2.3 Refer to Attachment 7.1, Emergency Categories, under the category TAB selected in step 5.2.2 above, match the off-normal condition with the appropriate Initiating Condition (IC) to determine the emergency classification.

5.2.4 If an event or condition existed which met or exceeded an IC but no emergency was declared and the basis for the emergency classification no longer exists at the time of the discovery (rapidly concluded event, missed classification or misclassified event), then do not classify the emergency or make offsite notifications.

5.2.4.1 Notify the NRC within one hour of the discovery of the undeclared or misclassified event in accordance with UNT-006-010.

NOTE

The effects of combinations of initiating conditions that individually constitute a lower classification may be considered as a possibly higher emergency classification.

- 5.2.5 Declare the highest emergency classification for which an IC has been met or exceeded.
- 5.2.6 Perform the emergency actions in accordance with the appropriate Emergency Plan Implementing Instruction, one of which is provided for each classification, as follows:
 - 5.2.6.1 Unusual Event - EP-001-010
 - 5.2.6.2 Alert - EP-001-020
 - 5.2.6.3 Site Area Emergency - EP-001-030
 - 5.2.6.4 General Emergency - EP-001-040
- 5.2.7 Assessment actions shall be continued, and if necessary, the emergency classification escalated (or downgraded) as more definitive information becomes available or if the plant conditions change.

6.0 FINAL CONDITIONS

6.1 The plant conditions which activated this instruction have been declassified to non-emergency status.

7.0 ATTACHMENTS

7.1 Emergency Categories

Index of Initiating Conditions

TAB A	Radioactive Releases/High Radiation Levels
TAB B	RCS Leakage/Degraded Core Conditions
TAB C	Loss of Safety Functions
TAB D	Hazards and Other Conditions Affecting Plant Safety
TAB E	Miscellaneous

8.0 RECORDS

None

INDEX OF INITIATING CONDITIONS

TAB A RADIOACTIVE RELEASES/HIGH RADIATION LEVELS

- I. Radioactive releases/EAB dose rates
- II. Fuel Handling incident/fuel uncover
- III. Exposure/contamination levels increased by X 1000
- IV. S/G Tube leak with steam release

TAB B RCS LEAKAGE/DEGRADED CORE CONDITIONS

- I. RCS Leakage
- II. Steam Line break/Secondary System depressurization
- II. Loss of Fission product barriers (General Emergency)
- III. Increased RCS Activity

TAB C LOSS OF SAFETY FUNCTIONS

- I. Loss of offsite power/EDGs
- II. Loss of DC power
- III. Inability to meet Technical Specification Shutdown Requirements
- III. Inability to achieve/maintain Hot/Cold Shutdown
- IV. RPS Auto/Manual Trip failure

TAB D HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

- I. Fire
- II. Security
- III. Earthquake
- IV. Tornado
- V. Hurricane
- VI. High River Water Level
- VII. Flooding
- VIII. Aircraft crash/Unusual aircraft activity
- IX. Explosion or missile impact
- X. Main Turbine rotating component failure
- XI. Train derailment

TAB E MISCELLANEOUS

- I. Increased awareness/Precautionary Activation/Standby/Notification
- * I. Loss of Fission product barriers
- II. Loss of Communications
- III. Evacuation of Control Room
- IV. Loss of Control Room Annunciators or Accident Monitoring Instrumentation

* For Alert and SAE conditions not addressed elsewhere. Fission product barrier losses listed as Indicators for E/A/I and E/SAE/I.

RADIOACTIVE RELEASES/HIGH RADIATION LEVELS

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

NOTE
OFFSITE PROTECTIVE ACTION RECOMMENDATIONS ARE REQUIRED. SEE EP-002-052.

A/UE/L

Radiological release which is \geq Tech. Spec. Limits.

A/AL/L

Radiological release which is \geq 10 TIMES Tech. Spec. Limits.

A/SAE/L

Dose projection or radiological monitoring team indicates TEDE dose rate at EAB \geq 50 MREM/HR OR CDE Thyroid dose rate at EAB \geq 250 MREM/HR.

A/GE/L

Dose projection or radiological monitoring team indicates TEDE dose rate at EAB \geq 1000 MREM/HR OR CDE Thyroid dose rate at EAB \geq 5000 MREM/HR

OR

Plant conditions exist which could result in a release of radioactivity such that these dose rates at the EAB could be reached or exceeded.

INDICATORS

1. Release is ongoing with HIGH alarm on effluent monitor.
2. A grab sample of the discharge indicates Tech. Spec. limits have been reached or exceeded.
3. PLANT STACK PIG, GAS CHANNEL (PRM-IRE-0100.1S or .2S, Grid 4, EGS-133 or 143) indicates \geq 1.44E-03 uCi/CC.
4. CONDENSER EXHAUST WRGM (PRM-IRE-0002, Grid 6, EGG-537). Condenser exhaust has not diverted to RAB Normal Exhaust AND monitor indicates release rate \geq 6.34E+04 uCi/SEC.

INDICATORS

1. Release is ongoing with HIGH alarm on effluent monitor.
2. A grab sample of the discharge indicates 10 TIMES Tech. Spec. limits have been reached or exceeded.
3. PLANT STACK PIG, GAS CHANNEL (PRM-IRE-0100.1S or .2S, Grid 4, EGS-133 or 143) indicates \geq 1.44E-02 uCi/CC.
4. CONDENSER EXHAUST WRGM (PRM-IRE-0002, Grid 6, EGG-537). Condenser exhaust has not diverted to RAB Normal Exhaust AND monitor indicates release rate \geq 6.34E+05 uCi/SEC.

INDICATORS

1. PLANT STACK WRGM (PRM-IRE-0110, Grid 6, EGG-517) indicates release rate \geq 1.82E+06 uCi/SEC.
2. CONDENSER EXHAUST WRGM (PRM-IRE-0002, Grid 6, EGG-537). Condenser exhaust has not diverted to RAB Normal Exhaust AND monitor indicates release rate \geq 1.92E+06 uCi/SEC.

RADIOACTIVE RELEASES/HIGH RADIATION LEVELS

RADIOACTIVE RELEASES/HIGH RADIATION LEVELS

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

A/UE/I.

A/A/I.

A/SAE/I.

INDICATORS CONTINUED

INDICATORS CONTINUED

INDICATORS CONTINUED

5. FUEL HANDLING BUILDING EXHAUST PIG, GAS CHANNEL (PRM-IRE-5107A or B, Grid 4, EGG-113 or 123). FHB Normal Exhaust has not been isolated AND monitor indicates $\geq 7.88E-03$ uCi/CC.
6. LIQUID OR BORON WASTE MANAGEMENT GRAB SAMPLE. The release path is not isolated AND sample results are $\geq 2.90E+00$ uCi/mL.
7. CIRCULATING WATER DISCHARGE GRAB SAMPLE. The release path is not isolated AND sample results are $\geq 2.90E-01$ uCi/mL.
8. DRY COOLING TOWER SUMPS MONITOR (Grid 4, ELL-201 or 202). The release path is not isolated AND monitor indicates $\geq 2.16E-05$ uCi/mL.
9. TURBINE BUILDING INDUSTRIAL WASTE SUMP MONITOR (Grid 4, ELL-204). The release path is not isolated AND monitor indicates $\geq 2.16E-05$ uCi/mL.

5. FUEL HANDLING BUILDING EXHAUST PIG, GAS CHANNEL (PRM-IRE-5107A or B, Grid 4, EGG-113 or 123). FHB Normal Exhaust has not been isolated AND monitor indicates $\geq 7.88E-02$ uCi/CC.
6. LIQUID OR BORON WASTE MANAGEMENT GRAB SAMPLE. The release path is not isolated AND sample results are $\geq 2.90E+01$ uCi/mL.
7. CIRCULATING WATER DISCHARGE GRAB SAMPLE. The release path is not isolated AND sample results are $> 2.90E+00$ uCi/mL.
8. DRY COOLING TOWER SUMPS MONITOR (Grid 4, ELL-201 or 202). The release path is not isolated AND monitor indicates $\geq 2.16E-04$ uCi/mL.
9. TURBINE BUILDING INDUSTRIAL WASTE SUMP MONITOR (Grid 4, ELL-204). The release path is not isolated AND monitor indicates $\geq 2.16E-04$ uCi/mL.

3. FUEL HANDLING BUILDING EXHAUST WRGM, (PRM-IRE-3032, Grid 6, EGG-527) indicates release rate $\geq 3.50E+06$ uCi/SEC.

RADIOACTIVE RELEASES/HIGH RADIATION LEVELS

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

NOTE

**OFFSITE PROTECTIVE ACTION
RECOMMENDATIONS ARE
REQUIRED. SEE EP-002-052.**

A/A/I/L

A fuel handling incident resulting in a release of radioactivity to the Containment or Fuel Handling Building \geq high alarm limits.

A/SAE/I/L

A fuel handling incident OR irradiated fuel uncover resulting in a release of radioactivity to the Containment and/or the Fuel Handling Building \geq 10 TIMES high alarm limits.

A/GE/I/L

Dose projection or radiological monitoring team indicates TEDE dose rate at EAB \geq 1000 MREM/HR OR CDE Thyroid dose rate at EAB \geq 5000 MREM/HR.

OR

Plant conditions exist which could result in a release of radioactivity such that these dose rates at the EAB could be reached or exceeded.

INDICATORS

1. FHB AREA RADIATION MONITORS (ISOLATION), (ARM-IRE-0300 .1S, .2S, .3S or .4S, Grid 1, AAS-001, 002, 003 or 004). \geq 100 MR/HR.
2. CONTAINMENT PIG, GAS CHANNEL, (PRM-IRE-0100S, Grid 5, PGS-313). \geq 1.40E-02 uCi/CC.
3. CONTAINMENT AREA RADIATION MONITORS. (PURGE ISOLATION), (Grid 2, AAS-018, 020, 023 or 024) \geq HIGH alarm.
4. HP SURVEYS indicate radiation levels \geq 100 MR/HR.

INDICATORS

1. FHB AREA RADIATION MONITORS (ISOLATION), (ARM-IRE-0300 .1S, .2S, .3S or .4S, Grid 1, AAS-001, 002, 003 or 004). \geq 1000 MR/HR.
2. CONTAINMENT PIG, GAS CHANNEL (PRM-IRE-0100S, Grid 5, PGS-313). \geq 1.40E-01 uCi/CC.
3. CONTAINMENT AREA RADIATION MONITORS. (PURGE ISOLATION), (Grid 2, AAS-018, 020, 023 or 024). \geq 10 TIMES HIGH alarm.
4. HP SURVEYS indicate radiation levels \geq 1000 MR/HR.

RADIOACTIVE RELEASES/HIGH RADIATION LEVELS

RADIOACTIVE RELEASES/HIGH RADIATION LEVELS

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

NOTE

**OFFSITE PROTECTIVE ACTION
RECOMMENDATIONS ARE
REQUIRED. SEE EP-002-052.**

A/A/II.

Radiation levels OR airborne contamination indicating a severe degradation in the control of radioactive materials.

A/SAE/II.

Dose projection or radiological monitoring team indicates TEDE dose rate at EAB ≥ 60 MREM/HR OR CDE Thyroid dose rate at EAB ≥ 250 MREM/HR.

A/GE/II.

Dose projection or radiological monitoring team indicates TEDE dose rate at EAB ≥ 1000 MREM/HR OR CDE Thyroid dose rate at EAB ≥ 5000 MREM/HR.

OR

Plant conditions exist which could result in a release of radioactivity such that these dose rates at the EAB could be reached or exceeded.

INDICATORS

1. Any Area Radiation Monitor or survey result which indicates an unexplained increase by a factor of ≥ 1000 .

INDICATORS

1. PLANT STACK WRGM (PRM-IRE- 0110, Grid 6, EGG-517) indicates release rate $\geq 1.82E+06$ uCi/SEC.
2. CONDENSER EXHAUST WRGM (PRM-IRE-0002, Grid 6, EGG-537). Condenser exhaust has not diverted to RAB Normal Exhaust AND monitor indicates release rate $\geq 1.92E+06$ uCi/SEC.
3. FUEL HANDLING BUILDING EXHAUST WRGM (PRM-IRE-3032, Grid 6, EGG-527) indicates release rate $\geq 3.50E+06$ uCi/SEC.

RADIOACTIVE RELEASES/HIGH RADIATION LEVELS

RADIOACTIVE RELEASES/HIGH RADIATION LEVELS

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

NOTE

**OFFSITE PROTECTIVE ACTION
RECOMMENDATIONS ARE
REQUIRED. SEE EP-002-052.**

A/A/IV.

**Steam Generator Tube leakage > 10 GPM WITH
a steam release.**

A/SAE/IV.

**Steam Generator Tube leakage > 44 GPM WITH
a steam release AND high RCS activity.**

A/GE/IV.

**Dose projection or radiological monitoring team
indicates TEDE dose rate at EAB \geq 1000
MREM/HR OR CDE Thyroid dose rate at EAB
 \geq 5000 MREM/HR.**

OR

**Plant conditions exist which could result in a release
of radioactivity such that these dose rates at the
EAB could be reached or exceeded.**

STEAM RELEASE INDICATORS

1. Unisolable Steam Line/Feed Line fault.
2. Main Steam Safety valve open.
3. Atmospheric Dump Valve in use.
4. Turbine driven Emergency Feedwater Pump in operation.

STEAM RELEASE INDICATORS

1. Unisolable Steam Line/Feed Line fault.
2. Main Steam Safety valve open.
3. Atmospheric Dump Valve in use.
4. Turbine driven Emergency Feedwater Pump in operation.

HIGH RCS ACTIVITY INDICATORS

1. RCS Dose Equivalent Iodine > 1.0 uCi/GM.

RADIOACTIVE RELEASES/HIGH RADIATION LEVELS

RCS LEAKAGE/DEGRADED CORE CONDITIONS

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

NOTE

**OFFSITE PROTECTIVE ACTION
RECOMMENDATIONS ARE REQUIRED.
SEE EP-002-052.**

B/U/E/L

RCS leakage exceeds any value allowed by Tech. Spec. limits AND a plant shutdown has been initiated.

B/A/L

RCS leakage > 44 GPM.

B/SAE/L

RCS leakage > available Charging Pump capacity
(LOCA OR Steam Generator Tube Rupture).

B/GE/L

Any LOCA WITH Safety System failures such that, in the opinion of the EC, a Core Melt Sequence is in progress or imminent.

INDICATORS

1. Pressure boundary leakage
2. > 1 GPM unidentified leakage
3. > 1 GPM primary to secondary leakage OR 720 Gallons Per Day to any one steam generator
4. > 10 GPM identified leakage from the RCS

RCS LEAKAGE/DEGRADED CORE CONDITIONS

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

NOTE

**OFFSITE PROTECTIVE ACTION
RECOMMENDATIONS ARE REQUIRED.
SEE EP-002-052.**

B/A/E/I,

Steam Line Break OR uncontrolled secondary depressurization.

B/A/I,

Steam Line Break WITH > 10 GPM primary to secondary leakage.

B/SAE/I,

Steam Line Break WITH > 44 GPM primary to secondary leakage AND high RCS activity.

B/GE/I,

EC opinion that a loss of any two of the three fission product barriers has occurred AND plant conditions are such that a potential loss of the third barrier exists.

INDICATORS

1. MSIS actuation.
2. Unisolable Steam Line/Feed Line fault.

INDICATORS

1. MSIS actuation.
2. Unisolable Steam Line/Feed Line fault.

STEAM LINE BREAK INDICATORS

1. MSIS actuation.
2. Unisolable Steam Line/Feed Line fault.

HIGH RCS ACTIVITY INDICATORS

1. RCS Dose Equivalent Iodine > 1.0 uCi/GM.

CLADDING BARRIER FAILURE INDICATORS

1. RCS Dose Equivalent Iodine > 300 uCi/GM.
2. CET temperatures > 700° F.
3. RVLMS upper plenum level equal to 0%.

RCS BARRIER FAILURE INDICATORS

1. Loss of RCS pressure boundary.

CONTAINMENT BARRIER FAILURE INDICATORS

1. Loss of Containment integrity.

RCS LEAKAGE/DEGRADED CORE CONDITIONS

RCS LEAKAGE/DEGRADED CORE CONDITIONS

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

NOTE

**OFFSITE PROTECTIVE ACTION
RECOMMENDATIONS ARE REQUIRED.
SEE EP-002-052.**

B/UE/III.

RCS Dose Equivalent Iodine > 0.8 uCi/GM.

B/A/II.

Plant conditions indicate > 1.0% Total Cladding Failure.

B/SAE/III.

Plant conditions indicate > 1.0% Total Cladding Failure WITH inadequate core cooling.

B/GE/III.

EC opinion that a loss of any two of the three fission product barriers has occurred AND plant conditions are such that a potential loss of the third barrier exists.

INDICATORS

1. RCS Dose Equivalent Iodine > 300 uCi/GM.
2. CET temperatures > 700° F.
3. RVLMS upper plenum level equal to 0%.

CLADDING FAILURE INDICATORS

1. RCS Dose Equivalent Iodine > 300 uCi/GM.
2. CET temperatures > 700° F.
3. RVLMS upper plenum level equal to 0%.

**INADEQUATE CORE COOLING
INDICATORS**

1. RCS heat removal Safety Function not met.
2. CET temperatures > 600° F AND rising.
3. No RCS subcooled margin.

**CLADDING BARRIER FAILURE
INDICATORS**

1. RCS Dose Equivalent Iodine > 300 uCi/GM.
2. CET temperatures > 700° F.
3. RVLMS upper plenum level equal to 0%.

RCS BARRIER FAILURE INDICATORS

1. Loss of RCS pressure boundary.

**CONTAINMENT BARRIER FAILURE
INDICATORS**

1. Loss of Containment integrity.

LOSS OF SAFETY FUNCTIONS

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

NOTE

**OFFSITE PROTECTIVE ACTION
RECOMMENDATIONS ARE REQUIRED.
SEE EP-002-052.**

C/UE/L

Loss of all offsite power **OR** loss of both EDGs.

C/A/L

Loss of all offsite power **AND** loss of both EDGs.

C/SAE/L

Loss of all offsite power **AND** loss of both EDGs for
> 15 minutes.

C/GE/L

All of the following conditions exist:

- Loss of all offsite power.
- Loss of both EDGs.
- Loss of all Emergency Feedwater.
- Both Steam Generators < 50% WR Leading to a core melt sequence.

C/A/L

All DC Safety Busses deenergized.

C/SAE/L

All DC Safety Busses deenergized for > 15 minutes.

INDICATORS

1. All of the following busses deenergized:
 - a. 3A-DC-S
 - b. 3B-DC-S
 - c. 3AB-DC-S

INDICATORS

1. All of the following busses deenergized:
 - a. 3A-DC-S
 - b. 3B-DC-S
 - c. 3AB-DC-S

LOSS OF SAFETY FUNCTIONS

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

NOTE

**OFFSITE PROTECTIVE ACTION
RECOMMENDATIONS ARE REQUIRED.
SEE EP-002-052.**

C/UE/III.

Inability to reach required shutdown within Technical Specification Limits.

C/A/II.

Inability to achieve or maintain Cold Shutdown.

C/SAE/II.

Inability to achieve or maintain Hot Shutdown.

C/GE/II.

All of the following conditions exist:

- Loss of all Main Feedwater
- Loss of all Emergency Feedwater
- Both Steam Generators < 50% WR Leading to a Core Melt Sequence.

INDICATORS

1. Inability to borate to Mode 5 Shutdown Margin.
2. Loss of both Shutdown Cooling trains.
3. Loss of both CCW/ACCW trains.

INDICATORS

1. Inability to borate to Mode 4 Shutdown Margin.
2. Loss of both Shutdown Cooling trains AND both Steam Generator levels < 60% WR.
3. Loss of natural circulation.
4. Inability to makeup to RCS.

LOSS OF SAFETY FUNCTIONS

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

NOTE

**OFFSITE PROTECTIVE ACTION
RECOMMENDATIONS ARE REQUIRED.
SEE EP-002-052.**

C/ATV.

RPS Automatic Trip failed.

C/SAE/IV.

RPS Automatic Trip failed **AND** Manual Trip failed
(ATWS).

C/GE/IV.

**ATWS WITH core damage OR WITH Safety
System failures such that, in the opinion of the EC, a
Core Melt Sequence is in progress or imminent.**

INDICATORS

1. Valid trip set point exceeded.
2. RPS Automatic Trip fails.

INDICATORS

1. RPS Automatic Trip failed **AND** Manual
Reactor Trip buttons fail **AND** Diversified
Reactor Trip Signal (DRTS) buttons fail.

INDICATORS

1. Loss of heat removal.
2. Loss of any ECCS function.
3. CET temperatures > 700° F.

HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

NOTE

**OFFSITE PROTECTIVE ACTION
RECOMMENDATIONS ARE REQUIRED.
SEE EP-002-052.**

NOTE

If the condition is a toxic chemical release, on or off site, which may affect the operation of the plant and/or the safety of station personnel, DO NOT use this procedure. Implement EP-004-010, Toxic Chemical Contingency Procedure.

D/UEA

Fire within the Protected Area > 10 minutes.

D/AA

Fire within the Protected Area potentially affecting a Safety System.

D/SAE/

Fire within the Protected Area compromising Safety System functions.

D/GE/

Any major internal or external event which could cause massive common damage to plant systems such that a Core Melt Sequence is in progress or imminent and the loss of Containment Integrity is likely.

INDICATORS

1. Fire causing the loss of both trains of a Safety System or its function.
2. One train inoperable; fire causes loss of the other train.

HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

<p>NOTE</p> <p>OFFSITE PROTECTIVE ACTION RECOMMENDATIONS ARE REQUIRED. SEE EP-002-052.</p>
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D/UE/II.

SS/CRS notified of a Security threat to the Owner Controlled Area OR attempted entry to the Protected Area OR attempted sabotage to the Protected Area.

INDICATORS

- Valid Bomb Threat.

D/UE/III.

Earthquake felt in-plant OR detected on station seismic instrumentation.

INDICATORS

- Valid earthquake detection indicated by "Seismic Recorders in Operation".

D/A/II.

EC notified of an Ongoing Security Compromise in the Protected Area.

INDICATORS

- Suspect device discovered in the Protected Area.
- Physical attack resulting in occupancy of the Protected Area.

D/A/III.

Earthquake > 0.05G ground acceleration.

INDICATORS

- Red light on seismic monitor panel.

D/SAE/II.

Imminent loss of physical control of the plant.

INDICATORS

- Suspect device discovered in the Nuclear Island.
- Physical attack resulting in occupancy of the Nuclear Island.

D/SAE/III.

Earthquake > 0.1G ground acceleration.

D/GE/II.

Loss of physical control of the plant.

INDICATORS

- Compromise of any of the following Rooms:
 - Control Room
 - +35 RAB Relay Rooms
 - +21 RAB Switchgear Rooms
 - +35 RAB Cable Spreading Room

D/GE/III.

Any major internal or external event which could cause massive common damage to plant systems such that a Core Melt Sequence is in progress or imminent and the loss of Containment integrity is likely.

HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

UNUSUAL EVENT

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SITE AREA EMERGENCY

GENERAL EMERGENCY

NOTE

**OFFSITE PROTECTIVE ACTION
RECOMMENDATIONS ARE REQUIRED.
SEE EP-002-052.**

D/UE/V.

Tomado observed within the Owner Controlled Area.

D/IA/V.

Tomado striking within the Protected Area.

D/SAE/V.

Tomado causes the loss of both trains of a Safety System or its function.

D/GE/V.

Any major internal or external event which could cause massive common damage to plant systems such that a Core Melt Sequence is in progress or imminent and the loss of Containment integrity is likely.

INDICATORS

1. Tomado causing the loss of both trains of a Safety System or its function.
2. One train inoperable; tomado causes loss of the other train.

D/UE/V.

St. Charles Parish comes under a Hurricane Warning.

D/IA/V.

Site experiencing sustained winds \geq 75 MPH.

D/SAE/V.

Site experiencing sustained winds \geq 110 MPH.

D/GE/V.

Any major internal or external event which could cause massive common damage to plant systems such that a Core Melt Sequence is in progress or imminent and the loss of Containment integrity is likely.

D/UE/M.

River water Level at the Intake Structure $>$ +24 FT MSL

D/IA/M.

River water Level at the Intake Structure $>$ +27 FT MSL

D/SAE/M.

River water breaching the levee (EL. \pm 30 FT MSL).

D/GE/M.

Any major internal or external event which could cause massive common damage to plant systems such that a Core Melt Sequence is in progress or imminent and the loss of Containment integrity is likely.

HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

NOTE

**OFFSITE PROTECTIVE ACTION
RECOMMENDATIONS ARE REQUIRED.
SEE EP-002-052.**

D/UEM/I

Flooding condition in the Protected Area, which in the opinion of the EC, potentially affects the level of safety of the Plant.

D/AM/I

Flooding condition in the Protected Area actually affects the level of safety of the Plant OR near design basis flooding.

D/SAEM/I

Flooding condition in the Protected Area which causes actual failure of both trains of a Safety System or its function.

D/GEM/I

Any major internal or external event which could cause massive common damage to plant systems such that a Core Melt Sequence is in progress or imminent and the loss of Containment integrity is likely.

INDICATORS

1. Flooding near +30 FT. MSL.
2. Hurricane surge near 18 FT.

INDICATORS

1. Flooding condition causing the loss of both trains of a Safety System or its function.
2. One train inoperable; flooding condition in the Protected Area causes loss of the other train.

D/UEM/II

Aircraft crash in the Owner Controlled Area OR unusual aircraft activity over the Protected Area.

D/AM/II

Aircraft crash in the Protected Area.

D/SAEM/II

Aircraft crash affecting Nuclear Island structures by impact or fire.

D/GEM/II

Any major internal or external event which could cause massive common damage to plant systems such that a Core Melt Sequence is in progress or imminent and the loss of Containment integrity is likely.

HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

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NOTE

**OFFSITE PROTECTIVE ACTION
RECOMMENDATIONS ARE REQUIRED.
SEE EP-002-052.**

D/UE/IX.

Explosion in the Owner Controlled Area

OR

Explosion Nearsite (e.g. on the river) which potentially affects plant safety.

D/AX.

Known explosion damage affecting plant operations
OR missile impact in the Protected Area.

D/SAE/IX.

Explosion or missile impact causing damage to Safety Systems.

D/GE/IX.

Any major internal or external event which could cause massive common damage to plant systems such that a Core Melt Sequence is in progress or imminent and the loss of Containment integrity is likely.

INDICATORS

1. Damage to a component required for a Safe Shutdown which prevents that component from performing its intended function.

D/UE/IX.

Main Turbine rotating component failure causing rapid Plant shutdown.

D/AX.

Main Turbine failure causing casing penetration.

D/UE/IXI.

Train derailment in the Owner Controlled Area.

MISCELLANEOUS

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

NOTE

**OFFSITE PROTECTIVE ACTION
RECOMMENDATIONS ARE REQUIRED.
SEE EP-002-052.**

E/A/E/L

Plant conditions warrant increased awareness on the part of the plant operating staff or State or local authorities.

E/A/L

Plant conditions exist that warrant precautionary activation of the TSC AND placing the EOF and other key emergency personnel on stand by.

E/SAE/L

Plant conditions exist that warrant precautionary activation of the TSC and EOF OR a precautionary notification to offsite authorities.

E/GE/L

EC opinion that a loss of any two of the three fission product barriers has occurred AND plant conditions are such that a potential loss of the third barrier exists.

INDICATORS

1. An event that will challenge or cause the loss of a fission product barrier.

INDICATORS

1. Challenge to two fission product barriers.
2. Failure of one fission product barrier and a challenge to another.
3. Failure of two fission product barriers.

CLADDING BARRIER FAILURE
INDICATORS

1. RCS Dose Equivalent Iodine > 300 uCi/GM.
2. CET temperatures > 700° F.
3. RVLMS upper plenum level equal to 0%.

RCS BARRIER FAILURE INDICATORS

1. Loss of RCS pressure boundary.

CONTAINMENT BARRIER FAILURE
INDICATORS

1. Loss of Containment integrity.

E/A/E/L

Loss of all of the following Communications: RAB PABX, EOF PABX, Operational Hotline and Emergency Notification System (ENS).

MISCELLANEOUS

MISCELLANEOUS

UNUSUAL EVENT

ALERT

SITE AREA EMERGENCY

GENERAL EMERGENCY

E/AMII.

Evacuation of the Control Room anticipated or required **WITH** control of shutdown systems established from LCP-43 (Remote Shutdown Panel).

E/SAEIII.

Evacuation of the Control Room **AND** control of shutdown systems not established from LCP-43 (Remote Shutdown Panel) within 15 minutes.

E/UEIV.

Unplanned loss of most or all Safety System annunciation or indication in the Control Room > 15 minutes.

E/AMIV.

Unplanned loss of most or all Safety System annunciation or indication in the Control Room > 15 minutes **WITH** a significant transient in progress **OR WITH** compensatory non-alarms indicators not available.

E/SAEIV.

Inability to monitor a significant transient in progress.

INDICATORS

1. Loss of $\geq 75\%$ of Control Room annunciator cabinets C,D,H,K,M,N,SA and SB.
2. Loss of $\geq 75\%$ of Reg. Guide 1.97 accident monitoring instrumentation.

MONITORING CAPABILITY INDICATORS

1. Loss of $\geq 75\%$ of Control Room annunciator cabinets C,D,H,K,M,N,SA and SB.
2. Loss of $\geq 75\%$ of Reg. Guide 1.97 accident monitoring instrumentation.

MONITORING CAPABILITY INDICATORS

1. Loss of all Control Room annunciator cabinets C,D,H,K,M,N,SA and SB.
2. Loss of all Reg. Guide 1.97 accident monitoring instrumentation.

COMPENSATORY NON-ALARMING INDICATORS

1. Loss of Plant Monitoring Computer (PMC) OR loss of PMC programs or functions needed to monitor the transient.

COMPENSATORY NON-ALARMING INDICATORS

1. Loss of Plant Monitoring Computer (PMC) OR loss of PMC programs or functions needed to monitor the transient.

SIGNIFICANT TRANSIENT INDICATORS

1. Automatic or manual reactor trip.
2. Reactor Power cutback or turbine runback involving $>25\%$ thermal power change.
3. ECCS injection.
4. Uncontrolled thermal power change of $\geq 10\%$.

SIGNIFICANT TRANSIENT INDICATORS

1. Automatic or manual reactor trip.
2. Reactor Power cutback or turbine runback involving $>25\%$ thermal power change.
3. ECCS injection.
4. Uncontrolled thermal power change of $\geq 10\%$.

LAST PAGE