



ONS-2016-036

10 CFR 50.54(q)

April 28, 2016

Attn: Document Control Desk
U. S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, Maryland 20852-2746

Subject: Duke Energy Carolinas, LLC
Oconee Nuclear Station, Units 1, 2, and 3
Docket Nos. 50-269, -270, and -287
Emergency Plan Implementing Procedures Manual
Volume 1, Revision 2016-001

Please find attached for your use and review a copy of the revision to the Oconee Nuclear Station Emergency Plan Implementing Procedures.

This revision is being submitted in accordance with 10 CFR 50.54(q) and does not reduce the effectiveness of the Emergency Plan or the Emergency Plan Implementing Procedures. If there are any questions or concerns pertaining to this revision please call Pat Street, Emergency Preparedness Manager, at 864-873-3124.

By copy of this letter, two copies of this revision are being provided to the NRC, Region II, Atlanta, Georgia.

Sincerely,

A handwritten signature in black ink, appearing to read 'Scott L. Batson', with a long horizontal line extending to the right.

Scott L. Batson
Vice President
Oconee Nuclear Station

Attachments:
Revision Instructions
EPIP Volume 1 - Revision 2016-001
50.54(q) Evaluation

A x 45
NRR

ONS-2016-036

U. S. Nuclear Regulatory Commission
April 28, 2016
Page 2

xc: w/2 copies of attachments

Ms. Catherine Haney
Administrator, Region II
Marquis One Tower
245 Peachtree Center., NE Suite 1200
Atlanta GA 30303-1257

w/copy of attachments

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(send via E-mail)

Mr. Jeffrey A. Whited, Project Manager
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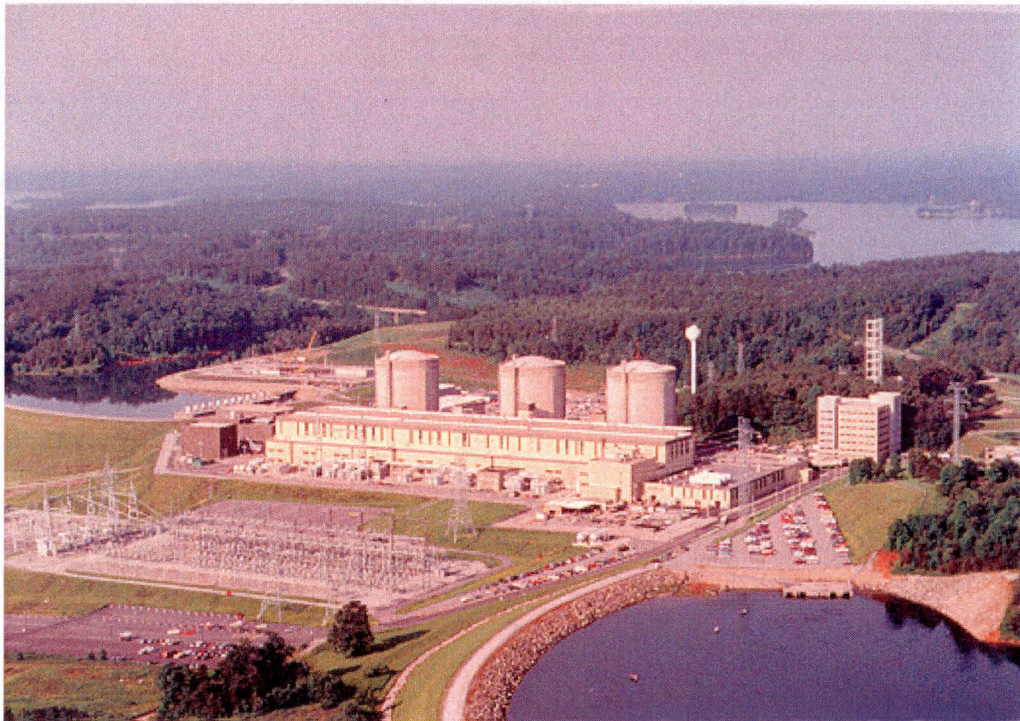
w/o attachments

Mr. Eddy Crowe
NRC Senior Resident Inspector
Oconee Nuclear Station

ELL
EC2ZF



**OCONEE NUCLEAR STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURES
Volume 1**



APPROVED:

A handwritten signature in black ink, appearing to read "Dean Hubbard", written over a horizontal line.

Dean Hubbard
Director, Nuclear Organizational Effectiveness

A handwritten date "4-26-16" in black ink, written over a horizontal line.
Date Approved

**Volume 1
REVISION 2016-001
Apr 2016**

April 4, 2016

OCONEE NUCLEAR STATION

SUBJECT: Emergency Plan Implementing Procedures
Volume 1, Revision 2016-001

Please make the following changes to the Emergency Plan Implementing Procedures Volume 1.

REMOVE

Cover Sheet Rev. 2015-007

RP/0/A/1000/001 Rev 004

INSERT

Cover Sheet Rev. 2016-001

RP/0/A/1000/001 Rev 005

A handwritten signature in black ink, appearing to read 'Pat Street', with a large circular flourish on the left side.

Pat Street
ONS Emergency Preparedness Mgr.

10 CFR 50.54(q) Screening Evaluation Form

Screening and Evaluation Number		Applicable Sites			
EREG #: 02006495	BNP	<input type="checkbox"/>			
	CNS	<input type="checkbox"/>			
	CR3	<input type="checkbox"/>			
	HNP	<input type="checkbox"/>			
5AD #: 02006477	MNS	<input type="checkbox"/>			
	ONS	<input checked="" type="checkbox"/>			
	RNP	<input type="checkbox"/>			
	GO	<input type="checkbox"/>			
Document and Revision RP/0/A/1000/001 Rev. 005	Emergency Classification				
<p>Part I. Description of Activity Being Reviewed (event or action, or series of actions that may result in a change to the emergency plan or affect the implementation of the emergency plan):</p> <p><u>Editorial changes:</u></p> <p>1. 1 and the body, changed from revision 4 to revision 5.</p> <p>2. Entire document, removed page numbers in the footer of the procedure due to format constraints.</p> <p>4. p. 6, removed page numbers from the table of contents due to format constraints</p> <p>5. Encl 4.6, p.2 capitalized 'FRESHLY OFF-LOADED REACTOR CORE' to maintain consistency with other procedure formatting that capitalizes defined terms.</p> <p>6. Encl 4.7 p.2 Replaced 'Condition B' with 'Potential Failure (Condition B)'. Replaced 'Condition A' with 'Imminent Failure (Condition A)' due to terminology changes in the Hydro Dam Emergency Plans that were driven by Revised FERC Guidelines for Dam Emergency Plans.</p> <p>7. Encl 4.10 p. 1 Amended definition of 'CONDITION A' to 'IMMINENT FAILURE (CONDITION A)' and added the enhanced definition to be consistent with the Revised FERC Guideline definition. Placed in alphabetical order.</p> <p>8. Encl 4.10 p. 1 Amended definition of 'CONDITION B' to 'POTENTIAL FAILURE (CONDITION B)' and added the enhanced definition to be consistent with the Revised FERC Guideline definition. Placed in alphabetical order</p> <p>9. Encl 4.12 p.1 Corrected the misspelling in the NOTE from 'judgement' to 'judgment'</p> <p>10. Encl 4.13 p.1 Added references used to support the clarification of change 3 and change 6.</p> <p><u>Changes to Procedure Body:</u></p> <p>3. Added new step 1.4.7 clarifying PLANNED vs UNPLANNED Events extracted from the guidance in NEI 99-01 on General Considerations for the Emergency Coordinator to assess. Response to AR 01965160-01</p>					
Part II. Activity Previously Reviewed?		Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>

10 CFR 50.54(q) Screening Evaluation Form

<p>Is this activity Fully bounded by an NRC approved 10 CFR 50.90 submittal or Alert and Notification System Design Report?</p> <p>If yes, identify bounding source document number or approval reference and ensure the basis for concluding the source document fully bounds the proposed change is documented below:</p> <p>Justification:</p>	<p>10 CFR 50.54(q) Effectiveness Evaluation is not required. Enter justification below and complete Attachment 4, Part V.</p>	<p>Continue to Attachment 4, 10 CFR 50.54(q) Screening Evaluation Form, Part III</p>
Bounding document attached (optional)		<input type="checkbox"/>
Part III. Editorial Change	Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> X

10 CFR 50.54(q) Screening Evaluation Form

<p>Is this activity an editorial or typographical change only, such as formatting, paragraph numbering, spelling, or punctuation that does not change intent?</p> <p><u>Editorial changes:</u></p> <ol style="list-style-type: none">1. p.1 and the body, changed from revision 4 to revision 5.2. Entire document, removed page numbers in the footer of the procedure due to format constraints.4. p. 6, removed page numbers from the table of contents due to format constraints5. Encl 4.6, p.2 capitalized 'FRESHLY OFF-LOADED REACTOR CORE' to maintain consistency with other procedure formatting that capitalizes defined terms.6. Encl 4.7 p.2 Amended 'Condition B' to 'Potential Failure (Condition B)'. Amended 'Condition A' to 'Imminent Failure (Condition A)' due to terminology changes in the Hydro Dam Emergency Plans that were driven by Revised FERC Guidelines for Dam Emergency Plans, (AR 01910389)7. Encl 4.10 p. 1 Amended definition of 'CONDITION A' to 'IMMINENT FAILURE (CONDITION A)' and added the enhanced definition to be consistent with the Revised FERC Guideline definition. (AR 01910389)8. Encl 4.10 p. 1 Amended definition of 'CONDITION B' to 'POTENTIAL FAILURE (CONDITION B)' and added the enhanced definition to be consistent with the Revised FERC Guideline definition. (AR 01910389)9. Encl 4.12 p.1 Corrected the misspelling in the NOTE from 'judgement' to 'judgment'10. Encl 4.13 p.1 Added references used to support the clarification of change 3 and change 6. <p><u>Justification:</u></p> <p>These changes correct the formatting, page numbering, capitalization, spelling and terminology. Due to FERC initiative, the Division of Dam Safety and Inspections, Office of Energy Projects, has finalized revisions to chapter 6 of the Engineering Guidelines for Emergency Action Plans. Terminology was modified to be consistent with the Homeland Security Exercise and Evaluation Program(HSEEP) Imminent Failure was part of the definition of Condition A and Potential Failure was part of the definition of Condition B, the change was intended to more clearly state the conditions of the dams to Offsite Organizations in the communications and do not change intent.</p> <p>The changes to the Emergency Plan have been evaluated per 10CFR50.54(q) under the EREG assignment 01999776 in CAS.</p>	10 CFR 50.54(q) Effectiveness Evaluation is not required. Enter justification and complete Attachment 4, Part V & VI.	Continue to Attachment 4, Part IV and address non editorial changes
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10 CFR 50.54(q) Screening Evaluation Form

Part IV. Emergency Planning Element and Function Screen (Reference Attachment 1, Considerations for Addressing Screening Criteria)

Does this activity involve any of the following, including program elements from NUREG-0654/FEMA REP-1 Section II? If answer is yes, then check box.

1	10 CFR 50.47(b)(1) Assignment of Responsibility (Organization Control):	
1a	Responsibility for emergency response is assigned.	<input type="checkbox"/>
1b	The response organization has the staff to respond and to augment staff on a continuing basis (24-7 staffing) in accordance with the emergency plan.	<input type="checkbox"/>
2	10 CFR 50.47(b)(2) Onsite Emergency Organization:	
2a	Process ensures that onshift emergency response responsibilities are staffed and assigned	<input type="checkbox"/>
2b	The process for timely augmentation of onshift staff is established and maintained.	<input type="checkbox"/>
3	10 CFR 50.47(b)(3) Emergency Response Support and Resources:	
3a	Arrangements for requesting and using off site assistance have been made.	<input type="checkbox"/>
3b	State and local staff can be accommodated at the EOF in accordance with the emergency plan. (NA for CR3)	<input type="checkbox"/>
4	10 CFR 50.47(b)(4) Emergency Classification System:	
4a	A standard scheme of emergency classification and action levels is in use. (Requires final approval of Screen and Evaluation by EP CFAM.)	X
5	10 CFR 50.47(b)(5) Notification Methods and Procedures:	
5a	Procedures for notification of State and local governmental agencies are capable of initiating notification of the declared emergency within 15 minutes (60 minutes for CR3) after declaration of an emergency and providing follow-up notification.	<input type="checkbox"/>
5b	Administrative and physical means have been established for alerting and providing prompt instructions to the public within the plume exposure pathway. (NA for CR3)	<input type="checkbox"/>
5c	The public ANS meets the design requirements of FEMA-REP-10, Guide for Evaluation of Alert and Notification Systems for Nuclear Power Plants, or complies with the licensee's FEMA-approved ANS design report and supporting FEMA approval letter. (NA for CR3)	<input type="checkbox"/>

10 CFR 50.54(q) Screening Evaluation Form

Part IV. Emergency Planning Element and Function Screen (cont.)		
6	10 CFR 50.47(b)(6) Emergency Communications	
6a	Systems are established for prompt communication among principal emergency response organizations.	<input type="checkbox"/>
6b	Systems are established for prompt communication to emergency response personnel.	<input type="checkbox"/>
7	10 CFR 50.47(b)(7) Public Education and Information	
7a	Emergency preparedness information is made available to the public on a periodic basis within the plume exposure pathway emergency planning zone (EPZ). (NA for CR3)	<input type="checkbox"/>
7b	Coordinated dissemination of public information during emergencies is established.	<input type="checkbox"/>
8	10 CFR 50.47(b)(8) Emergency Facilities and Equipment	
8a	Adequate facilities are maintained to support emergency response.	<input type="checkbox"/>
8b	Adequate equipment is maintained to support emergency response.	<input type="checkbox"/>
9	10 CFR 50.47(b)(9) Accident Assessment	
9a	Methods, systems, and equipment for assessment of radioactive releases are in use.	<input type="checkbox"/>
10	10 CFR 50.47(b)(10) Protective Response	
10a	A range of public PARs is available for implementation during emergencies. (NA for CR3)	<input type="checkbox"/>
10b	Evacuation time estimates for the population located in the plume exposure pathway EPZ are available to support the formulation of PARs and have been provided to State and local governmental authorities. (NA for CR3)	<input type="checkbox"/>
10c	A range of protective actions is available for plant emergency workers during emergencies, including those for hostile action events.	<input type="checkbox"/>
10d	KI is available for implementation as a protective action recommendation in those jurisdictions that chose to provide KI to the public.	<input type="checkbox"/>
11	10 CFR 50.47(b)(11) Radiological Exposure Control	
11a	The resources for controlling radiological exposures for emergency workers are established.	<input type="checkbox"/>
12	10 CFR 50.47(b)(12) Medical and Public Health Support	
12a	Arrangements are made for medical services for contaminated, injured individuals.	<input type="checkbox"/>
13	10 CFR 50.47(b)(13) Recovery Planning and Post-accident Operations	
13a	Plans for recovery and reentry are developed.	<input type="checkbox"/>
14	10 CFR 50.47(b)(14) Drills and Exercises	
14a	A drill and exercise program (including radiological, medical, health physics and other program areas) is established.	<input type="checkbox"/>
14b	Drills, exercises, and training evolutions that provide performance opportunities to develop, maintain, and demonstrate key skills are assessed via a formal critique process in order to identify weaknesses.	<input type="checkbox"/>
14c	Identified weaknesses are corrected.	<input type="checkbox"/>
15	10 CFR 50.47(b)(15) Emergency Response Training	
15a	Training is provided to emergency responders.	<input type="checkbox"/>

10 CFR 50.54(q) Screening Evaluation Form

Part IV. Emergency Planning Element and Function Screen (cont.)	
16	10 CFR 50.47(b)(16) Emergency Plan Maintenance
16a	Responsibility for emergency plan development and review is established. <input type="checkbox"/>
16b	Planners responsible for emergency plan development and maintenance are properly trained. <input type="checkbox"/>
PART IV. Conclusion	
If no Part IV criteria are checked, a 10 CFR 50.54(q) Effectiveness Evaluation is not required, then complete Attachment 4, 10 CFR 50.54(q) Screening Evaluation Form, Part V. Go to Attachment 4, 10 CFR 50.54(q) Screening Evaluation Form, Part VI for instructions describing the NRC required 30 day submittal. <input type="checkbox"/>	
If any Attachment 4, 10 CFR 50.54(q) Screening Evaluation Form, Part IV criteria are checked, then complete Attachment 4, 10 CFR 50.54(q) Screening Evaluation Form, Part V and perform a 10 CFR 50.54(q) Effectiveness Evaluation. Shaded block requires final approval of Screen and Evaluation by EP CFAM. <input checked="" type="checkbox"/>	

Part V. Signatures:		
Preparer Name (Print): Peter Kuhlman	Preparer Signature: <i>[Signature]</i>	Date:
Reviewer Name (Print): Don Crowl	Reviewer Signature: <i>[Signature]</i>	Date:
Approver (EP Manager Name (Print): Pat Street	Approver Signature: <i>[Signature]</i>	Date: 4/4/16
Approver (CFAM, as required) Name (Print)	Approver Signature: N/A <i>[Signature]</i> per Peter Crowl	Date:

Part VI. NRC Emergency Plan and Implementing Procedure Submittal Actions	
Create two EREG General Assignments.	<input type="checkbox"/>
One for EP to provide the 10 CFR 50.54(q) summary of the analysis, or the completed 10 CFR 50.54(q), to Licensing.	<input type="checkbox"/>
One for Licensing to submit the 10 CFR 50.54(q) information to the NRC within 30 days after the change is put in effect.	<input type="checkbox"/>

QA RECORD

10 CFR 50.54(q) Effectiveness Evaluation Form

Screening and Evaluation Number		Applicable Sites	
EREG #: 02006495		BNP	<input type="checkbox"/>
		CNS	<input type="checkbox"/>
		CR3	<input type="checkbox"/>
		HNP	<input type="checkbox"/>
5AD #: 02006477		MNS	<input type="checkbox"/>
		ONS	X
		RNP	<input type="checkbox"/>
		GO	<input type="checkbox"/>
Document and Revision RP/0/A/1000/001 Rev. 005	Emergency Classification		
Part I. Description of Proposed Change: <u>Changes to Procedure Body:</u> Added new step 1.4.7 clarifying PLANNED vs UNPLANNED Events extracted from the guidance in NEI 99-01 on General Considerations for the Emergency Coordinator to assess. (Response to AR 01965160-01) <u>Enclosure 4.7</u> 2. p.2 Replaced 'Condition B' with 'Potential Failure (Condition B)'. Replaced 'Condition A' with 'Imminent Failure (Condition A)' due to terminology changes in the Hydro Dam Emergency Plans that were driven by Revised FERC Guidelines for Dam Emergency Plans, (AR 01910389) This change is being performed in parallel and to support the change to the Emergency Plan, Rev 2015-007 which has been evaluated and documented in AR 01979258			
Attachment 6, 10 CFR 50.54(q) Initiating Condition (IC) and Emergency Action Level (EAL) and EAL Bases Validation and Verification (V&V) Form, is attached (required for IC or EAL change)		Yes	X
		No	<input type="checkbox"/>

10 CFR 50.54(q) Effectiveness Evaluation Form

Part II. Description and Review of Licensing Basis Affected by the Proposed Change:

ONS Emergency Plan Revision 2015-007(November)

D.2 Initiating Conditions : Initiating conditions and their corresponding emergency actions levels are contained in the BASIS document beginning on page D-4. Classification procedure (RP/O/A/1000/001) provides the guidance necessary to classify events and promptly declare the appropriate emergency condition within 15 minutes after the availability of indications to cognizant facility staff that an emergency action level threshold has been exceeded. Specific response procedures are in place for the Control Room, Technical Support Center and the Emergency Operations Facility which delineate the required response during the appropriate classification.

D. Enclosure 4.7 Contain the IC/EAL for Natural and Destructive Phenomena Affecting Keowee or Jocassee Hydro POTENTIAL FAILURE [Condition B] and Imminent/actual dam failure exists involving any of the following: Keowee Hydro Dam, Little River Dam, Dikes A,B,C,D, Intake Canal Dike, or Jocassee Dam - IMMINENT FAILURE [Condition A]

10 CFR 50.54(q) Effectiveness Evaluation Form

Part III. Description of How the Proposed Change Complies with Regulation and Commitments.

If the emergency plan, modified as proposed, no longer complies with planning standards in 10 CFR 50.47(b) and the requirements in Appendix E to 10 CFR Part 50, then ensure the change is rejected, modified, or processed as an exemption request under 10 CFR 50.12, Specific Exemptions, rather than under 10 CFR 50.54(q):

Regulations

10 CFR 50.47(b)(4) states A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.

10 CFR App E.IV.C.2 states (in part) By June 20, 2012, nuclear power reactor licensees shall establish and maintain the capability to assess, classify, and declare an emergency condition within 15 minutes after the availability of indications to plant operators that an emergency action level has been exceeded and shall promptly declare the emergency condition as soon as possible following identification of the appropriate emergency classification level

NUREG-0654, Criterion D.1 and D.2

1. An emergency classification and emergency action level scheme as set forth in Appendix 1 must be established by the licensee. The specific instruments, parameters or equipment status shall be shown for establishing each emergency class, in the in-plant emergency procedures. The plan shall identify the parameter values and equipment status for each emergency class.
2. The initiating conditions shall include the example conditions found in Appendix 1 and all postulated accidents in the Final Safety Analysis Report (FSAR) for the nuclear facility.

Compliance

Change 1 added the step to provide the EC/SM with clarifying information to consider when reviewing IC/EAL's for planned evolutions which would not warrant an emergency declaration.

Change 2 adds terminology to Condition 'A' and 'B' that will be changing in 2016. The terminology 'Imminent Failure' and 'Potential Failure' are currently in the definitions of Condition 'A' and 'B'. Changes to the terms are a result of a change driven by FERC Hydro to more descriptive terms used to describe the status a dams when communicating to Offsite Response Organizations.

The ONS Emergency Plan has been previously evaluated to comply with regulations and guidance for emergency classification. Due to FERC initiative, the Division of Dam Safety and Inspections, Office of Energy Projects, has finalized revisions to chapter 6 of the Engineering Guidelines for Emergency Action Plans. Terminology was modified to be consistent with the Homeland Security Exercise and Evaluation Program(HSEEP). The IC/EAL scheme has not changed but information has been added that will enhance the EC/SM's ability to classify in a timely manner when notified by Duke Hydro of events that could lead to event declaration using the new terms under the FERC guidelines for Hydro Emergency Action Plans. Additionally, information is being provided for consideration when evaluating planned events that meet IC/EAL criteria that would conservatively not warrant an event declaration. The procedure, as revised, continues to comply with regulations and commitments.

10 CFR 50.54(q) Effectiveness Evaluation Form

Part IV. Description of Emergency Plan Planning Standards, Functions and Program Elements Affected by the Proposed Change (Address each function identified in Attachment 4, 10 CFR 50.54(q) Screening Evaluation Form, Part IV of associated Screen):

10 CFR 50.47(b)(4) A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures

A standard emergency classification and action level scheme is established and maintained.

Part V. Description of Impact of the Proposed Change on the Effectiveness of Emergency Plan Functions:

10 CFR 50.47(b)(4) A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures

1. Added new step 1.4.7 clarifying PLANNED vs UNPLANNED Events extracted from the guidance in NEI 99-01 on General Considerations for the Emergency Coordinator to assess. Response to AR 01965160-01
2. p.2 Replaced 'Condition B' with 'Potential Failure (Condition B)'. Replaced 'Condition A' with 'Imminent Failure (Condition A)' due to terminology changes in the Hydro Dam Emergency Plans that were driven by Revised FERC Guidelines for Dam Emergency Plans,

No changes or deletions of information has been performed on the procedure but clarifying information has been provided/added therefore, there is no reduction in effectiveness.

Part VI. Evaluation Conclusion.

Answer the following questions about the proposed change.

1	Does the proposed change comply with 10 CFR 50.47(b) and 10 CFR 50 Appendix E?	Yes X	No <input type="checkbox"/>
2	Does the proposed change maintain the effectiveness of the emergency plan (i.e., no reduction in effectiveness)?	Yes X	No <input type="checkbox"/>
3	Does the proposed change maintain the current Emergency Action Level (EAL) scheme?	Yes X	No <input type="checkbox"/>
4	Choose one of the following conclusions:		
a	The activity does continue to comply with the requirements of 10 CFR 50.47(b) and 10 CFR 50, Appendix E, and the activity does not constitute a reduction in effectiveness or change in the current Emergency Action Level (EAL) scheme. Therefore, the activity can be implemented without prior NRC approval.	X	
	The activity does not continue to comply with the requirements of 10 CFR 50.47(b) or 10 CFR 50 Appendix E or the activity does constitute a reduction in effectiveness or EAL scheme change. Therefore, the activity cannot be implemented without prior NRC approval.	<input type="checkbox"/>	

10 CFR 50.54(q) Effectiveness Evaluation Form

Part VII. Disposition of Proposed Change Requiring Prior NRC Approval

Will the proposed change determined to require prior NRC approval be either revised or rejected?

Yes ☐

No ☐

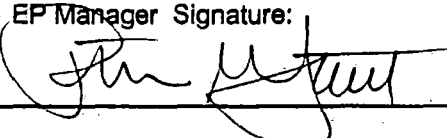
If No, then initiate a License Amendment Request in accordance 10 CFR 50.90 and AD-LS-ALL-0002, Regulatory Correspondence, and include the tracking number: _____.

10 CFR 50.54(q) Effectiveness Evaluation Form

Part VIII. Signatures: EP CFAM Final Approval is required for changes affecting risk significant planning standard 10 CFR 50.47(b)(4).		
Preparer Name (Print): Peter Kuhlman	Preparer Signature: <i>Peter Kuhlman</i>	Date:
Reviewer Name (Print): Don Crowl	Reviewer Signature: <i>Don Crowl</i>	Date:
Approver (EP Manager) Name (Print): Pat Street	Approver Signature: <i>Pat Street</i>	Date: 4/4/16
Approver (CFAM, as required) Name (Print):	Approver Signature: N/A <i>Pat Street</i>	Date:
If the proposed activity is a change to the E-Plan or implementing procedures, then create two EREG General Assignments.		
One for EP to provide the 10 CFR 50.54(q) summary of the analysis, or the completed 10 CFR 50.54(q), to Licensing.	<input type="checkbox"/>	
One for Licensing to submit the 10 CFR 50.54(q) information to the NRC within 30 days after the change is put in effect.	<input type="checkbox"/>	

QA RECORD

**10 CFR 50.54(q) Initiating Condition (IC) and Emergency Action Level (EAL) and EAL
Bases Validation and Verification (V&V) Form**

Screening or Evaluation Number:				
Part I. Identification of ICs and EALs Affected by Proposed Change: Enclosure 4.7 (p. D-83), 4.7.U.2 (p.D-86), 4.7.U.3 (p. D-87), 4.7.S.2 (p. D-98): Added terms in brackets; Imminent Failure prior to Condition A, Potential failure prior to Condition B. In response to FERC terminology pending change Change done in parallel with Emergency Plan Rev 2015-007 documented under AR 01979258-03				
Part II. Determination of Validation Method by Site EP Manager:				
In-Plant Walkdown	<input type="checkbox"/>	Tabletop	<input type="checkbox"/>	
Training	<input type="checkbox"/>	Other (Specify) _____	<input type="checkbox"/>	
Simulator	<input type="checkbox"/>	NA; Completed under AR 01979258-03	<input checked="" type="checkbox"/>	X
EP Manager Name (Print): Pat Street		EP Manager Signature: 		Date: 4/4/16
Part III. Validation. (Answers marked No require resolution)				
Validation Question	Yes	No	NA	Resolution and Comments
Readouts, alarms, indications. etc., available in the Control Room?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Monitor, gauge, etc., designations are correct?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are correct units of measure displayed on the monitor, gauge, etc.?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All values are within instrumentation display range?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is instrument display finite enough to distinguish between values?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
No miscellaneous issues were identified during walkdown correct?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Part IV. Verification (Answers marked No require resolution)				
Validation Question	Yes	No	NA	Resolution and Comments
Is the IC/EAL change easy to use and does it flow well? Is sequencing logical and correct? Is it written to appropriate level of detail and unambiguous?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the IC/EAL Matrix legible and easy to use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are correct units of measure displayed on the monitor, gauge, etc.?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

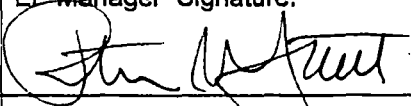
**10 CFR 50.54(q) Initiating Condition (IC) and Emergency Action Level (EAL) and EAL
Bases Validation and Verification (V&V) Form**

Part IV. Verification (cont.) (No answers require resolution))				
Validation Question:	Yes	No	NA	Resolution and Comments:
Instrumentation; Plant Computer System (PCS); and/or Plant Process Computer System (PPCS) points specified? <ul style="list-style-type: none"> • Correct instrument? • Correct units • Adequate instrument range? • Display unit readable? • Proper significant digits? • Instrument number and noun name provided? • Consistent with operations procedures? 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
References specified in EAL Technical Basis current and updated and source documents for inputs have been identified and verified to be appropriate for use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the change avoid human performance challenges, latent weaknesses, and human performance traps? <ul style="list-style-type: none"> • No vague or missing critical detail(s). • Decisions are not over-reliant on knowledge for successful performance 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Modifications, Emergency Plan, EAL Technical Basis, reference manual and procedure revisions, setpoint changes, software changes, training, etc. are appropriately scheduled to correspond to the EAL revision?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are alarm setpoints equal to or below EAL thresholds?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do radiation monitor setpoints account for background?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Part V. Comments:				

ATTACHMENT 6

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**10 CFR 50.54(q) Initiating Condition (IC) and Emergency Action Level (EAL) and EAL
Bases Validation and Verification (V&V) Form**

Part VI. Completion Review and Approval Signatures		
Validation and Verification (Print Names) [Note1]: N/A	Validation and Verification Signatures:	Date:
Site EP Manager Review (Print Name): Pat Street	EP Manager Signature: 	Date: 4/8/16
Senior Operations License Holder (Print Name): N/A	Senior Operations License Holder Signature	Date:
Qualified Emergency Coordinator (Print Name): N/A	Qualified Emergency Coordinator Signature:	Date:
Engineering Review (Print Name) [Note2]: N/A	Engineering Signature:	Date:
PSA Review (Print Name) [Note3]: N/A	PSA Signature:	Date:
EP CFAM Review (Print Name): N/A	EP CFAM Signature:	Date:
[BNP, CR3, HNP, RNP] Final PNSC Approval (Print Name) N/A	[BNP, CR3, HNP, RNP] PNSC Signature	Date:

**10 CFR 50.54(q) Initiating Condition (IC) and Emergency Action Level (EAL) and EAL
Bases Validation and Verification (V&V) Form**

Part VII. NRC Emergency Plan and Implementing Procedure Submittal Actions	
<p>If the proposed activity is a change to the E-Plan or implementing procedures, then create two EREG General Assignments.</p> <p>One for EP to provide the 10 CFR 50.54(q) summary of the analysis, or the completed 10 CFR50.54(q), to Licensing.</p> <p>One for Licensing to submit the 10 CFR 50.54(q) information to the NRC within 30 days after the change is put in effect.</p>	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p>
<p>Notes:</p> <p>1. Validation and Verification can be performed by same individual but must be: Qualified in the subject matter Separate from the author of change A cross-discipline reviewer</p> <p>2. [BNP, CR3, HNP, RNP] System specific Engineering Review is required for EAL changes related to process equipment such as radiological instruments and environmental monitoring.</p> <p>3. [BNP, HNP, RNP] PSA review is required for EAL changes to ensure any potential or actual impact to PSA calculations or assumptions are adequately addressed. (Not applicable to CR3)</p>	

QA RECORD

<div>Duke Energy Company Oconee Nuclear Site</div> <div>Emergency Classification</div> <div>Reference Use</div>	Procedure No. RP/0/A/1000/001
	Revision No. 005
	Electronic Reference No. OP009A63

Emergency Classification

- NOTE:** This procedure is an implementing procedure to the Oconee Nuclear Site Emergency Plan and must be:
- Reviewed in accordance with 10CFR50.54(q) by Emergency Preparedness prior to approval.
 - Cross Disciplinary Reviewed by Operations
 - Forwarded to Emergency Preparedness within seven (7) working days of approval.

1. Symptoms

- 1.1 This procedure describes the immediate actions to be taken to recognize and classify an emergency condition.
- 1.2 This procedure identifies the four emergency classifications and their corresponding Emergency Action Levels (EALs).
- 1.3 This procedure provides reporting requirements for non-emergency abnormal events.
- 1.4 The following guidance is to be used by the Emergency Coordinator/EOF Director in assessing emergency conditions:
 - 1.4.1 Definitions and Acronyms are italicized throughout procedure for easy recognition. The definitions are in Enclosure 4.10 (Definitions/Acronyms).
 - 1.4.2 The Emergency Coordinator/EOF Director shall review all applicable initiating events to ensure proper classification.
 - 1.4.3 The BASIS Document (Volume A, Section D of the Emergency Plan) is available for review if any questions arise over proper classification.
 - 1.4.4 **IF** An event occurs on more than one unit concurrently,
THEN The event with the higher classification will be classified on the Emergency Notification Form.
 - A. Information relating to the problem(s) on the other unit(s) will be captured on the Emergency Notification Form as shown in RP/0/A/1000/015A, (Offsite Communications From The Control Room), RP/0/A/1000/015B, (Offsite Communications From The Technical Support Center) or SR/0/A/2000/004, (Notification to States and Counties from the Emergency Operations Facility):

- 1.4.5 **IF** An event occurs,
- AND** A lower or higher plant operating mode is reached before the classification can be made,
- THEN** The classification shall be based on the mode that existed at the time the event occurred.

1.4.6 The Fission Product Barrier Matrix is applicable only to those events that occur at Mode 4 (Hot Shutdown) or higher.

A. An event that is recognized at Mode 5 (Cold Shutdown) or lower shall not be classified using the Fission Product Barrier Matrix.

1. Reference should be made to the additional enclosures that provide Emergency Action Levels for specific events (e.g., Severe Weather, *Fire*, Security).

1.4.7 Planned vs. UNPLANNED Events

A planned work activity that results in an expected event or condition which meets or exceeds an EAL does NOT warrant an emergency declaration provided that: 1) the activity proceeds as planned, and 2) the plant remains within the limits imposed by the operating license. Such activities include planned work to test, manipulate, repair, maintain or modify a system or component. In these cases, the controls associated with the planning, preparation and execution of the work will ensure that compliance is maintained with all aspects of the operating license provided that the activity proceeds and concludes as expected. Events or conditions of this type may be subject to the reporting requirement of 10 CFR 50.72 (ref.17).

1.5 **IF** A transient event should occur,

THEN Review the following guidance:

1.5.1 **IF** An Emergency Action Level (EAL) identifies a specific duration

AND The Emergency Coordinator/EOF Director assessment concludes that the specified duration is exceeded or will be exceeded, (i.e.; condition cannot be reasonably corrected before the duration elapses),

THEN Classify the event.

1.5.2 **IF** A plant condition exceeding EAL criteria is corrected before the specified duration time is exceeded,

THEN The event is **NOT** classified by that EAL.

A. Review lower severity EALs for possible applicability in these cases.

NOTE: Reporting under 10CFR50.72 may be required for the following step. Such a condition could occur, for example, if a follow up evaluation of an abnormal condition uncovers evidence that the condition was more severe than earlier believed.

1.5.3 **IF** A plant condition exceeding EAL criteria is not recognized at the time of occurrence, but is identified well after the condition has occurred (e.g.; as a result of routine log or record review)

AND The condition no longer exists,

THEN An emergency shall **NOT** be declared.

- Refer to AD-LS-ALL-0006 (Notification/Reportability Evaluation) for reportability

1.5.4 **IF** An emergency classification was warranted, but the plant condition has been corrected prior to declaration and notification

THEN The Emergency Coordinator must consider the potential that the initiating condition (e.g.; Failure of Reactor Protection System) may have caused plant damage that warrants augmenting the on shift personnel through activation of the Emergency Response Organization.

A. **IF** An *Unusual Event* condition exists,

THEN Make the classification as required.

1. The event may be terminated in the same notification or as a separate termination notification.

B. **IF** An *Alert, Site Area Emergency*, or *General Emergency* condition exists,

THEN Make the classification as required,

AND Activate the Emergency Response Organization.

1.6 Emergency conditions shall be classified as soon as the Emergency Coordinator/EOF Director assessment determines that the Emergency Action Levels for the Initiating Condition have been exceeded.

2. Immediate Actions

2.1 Assessment, classification and declaration of any applicable emergency condition should be completed within 15 minutes after the availability of indications or information to cognizant facility staff that an EAL threshold has been exceeded.

- 2.2 Determine the operating mode that existed at the time the event occurred prior to any protection system or operator action initiated in response to the event.
- 2.3 **IF** The unit is at Mode 4 (Hot Shutdown) or higher
AND The condition/event affects fission product barriers,
THEN GO TO Enclosure 4.1, (Fission Product Barrier Matrix).
- 2.3.1 Review the criteria listed in Enclosure 4.1, (Fission Product Barrier Matrix) and make the determination if the event should be classified).
- 2.4 Review the listing of enclosures to determine if the event is applicable to one of the categories shown.
- 2.4.1 **IF** One or more categories are applicable to the event,
THEN Refer to the associated enclosures.
- 2.4.2 Review the EALs and determine if the event should be classified.
- A. **IF** An EAL is applicable to the event,
THEN Classify the event as required.
- 2.5 **IF** The condition requires an emergency classification,
THEN Initiate the following:
- for Control Room - RP/0/A/1000/002, (Control Room Emergency Coordinator Procedure)
 - for TSC - RP/0/A/1000/019, (Technical Support Center Emergency Coordinator Procedure)
 - for EOF - SR/0/A/2000/003, (Activation of the Emergency Operations Facility)
- 2.6 Continue to review the emergency conditions to assure the current classification continues to be applicable.

3. Subsequent Actions

- 3.1 Continue to review the emergency conditions to assure the current classification continues to be applicable.

4. Enclosures

Enclosures	
4.1	Fission Product Barrier Matrix
4.2	System Malfunctions
4.3	Abnormal Rad Levels/Radiological Effluents
4.4	Loss Of Shutdown Functions
4.5	Loss of Power
4.6	Fires/Explosions And Security Actions
4.7	Natural Disasters, Hazards, And Other Conditions Affecting Plant Safety
4.8	Radiation Monitor Readings For Emergency Classification
4.9	Unexpected/Unplanned Increase In Area Monitor Readings
4.10	Definitions
4.11	Operating Modes Defined In Improved Technical Specifications
4.12	Instructions For Using Enclosure 4.1
4.13	References

Enclosure 4.1
Fission Product Barrier Matrix

RP/0/A/1000/001
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DETERMINE THE APPROPRIATE CLASSIFICATION USING THE TABLE BELOW:

ADD POINTS TO CLASSIFY.

SEE NOTE BELOW

RCS BARRIERS (BD 5-7)		FUEL CLAD BARRIERS (BD 8-9)		CONTAINMENT BARRIERS (BD 10-13)																									
Potential Loss (4 Points)	Loss (5 Points)	Potential Loss (4 Points)	Loss (5 Points)	Potential Loss (1 Point)	Loss (3 Points)																								
RCS Leakrate ≥ 160 gpm	RCS Leak rate that results in a loss of subcooling.	Average of the 5 highest CETC ≥ 700° F	Average of the 5 highest CETC ≥ 1200° F	CETC ≥ 1200° F ≥ 15 minutes OR CETC ≥ 700° F ≥ 15 minutes with a valid RVLS reading 0"	Rapid unexplained containment pressure decrease after increase OR containment pressure or sump level not consistent with LOCA																								
SGTR ≥ 160 gpm		Valid RVLS reading of 0"	Coolant activity ≥ 300 μCi/ml DEI	RB pressure ≥ 59 psig OR RB pressure ≥ 10 psig and no RBCU or RBS	Failure of secondary side of SG results in a direct opening to the environment with SG Tube Leak ≥ 10 gpm in the <u>SAME</u> SG																								
Entry into the PTS (Pressurized Thermal Shock) Operation NOTE: PTS is entered under either of the following: <ul style="list-style-type: none">A cooldown below 400°F @ > 100°F/hr. has occurred.HPI has operated in the injection mode while NO RCPs were operating.	1RIA 57 or 58 reading ≥ 1.0 R/hr 2 RIA 57 reading ≥ 1.6 R/hr 2 RIA 58 reading ≥ 1.0 R/hr 3RIA 57 or 58 reading ≥ 1.0 R/hr	<div>NOTE: RVLS is NOT valid if either of the following exists:<ul style="list-style-type: none">One or more RCPs are running ORIf LPI pump(s) are running AND taking suction from the LPI drop line.</div>	<table><thead><tr><th>Hours Since SD</th><th>RIA 57 OR R/hr</th><th>RIA 58 OR R/hr</th></tr></thead><tbody><tr><td>0 - <0.5</td><td>≥ 300</td><td>≥ 150</td></tr><tr><td>0.5 - < 2.0</td><td>≥ 80</td><td>≥ 40</td></tr><tr><td>2.0 - 8.0</td><td>≥ 32</td><td>≥ 16</td></tr></tbody></table>	Hours Since SD	RIA 57 OR R/hr	RIA 58 OR R/hr	0 - <0.5	≥ 300	≥ 150	0.5 - < 2.0	≥ 80	≥ 40	2.0 - 8.0	≥ 32	≥ 16	<table><thead><tr><th>Hours Since SD</th><th>RIA 57 OR R/hr</th><th>RIA 58 OR R/hr</th></tr></thead><tbody><tr><td>0 - <0.5</td><td>≥ 1800</td><td>≥ 860</td></tr><tr><td>0.5 - < 2.0</td><td>≥ 400</td><td>≥ 195</td></tr><tr><td>2.0 - 8.0</td><td>≥ 280</td><td>≥ 130</td></tr></tbody></table>	Hours Since SD	RIA 57 OR R/hr	RIA 58 OR R/hr	0 - <0.5	≥ 1800	≥ 860	0.5 - < 2.0	≥ 400	≥ 195	2.0 - 8.0	≥ 280	≥ 130	SG Tube Leak ≥ 10 gpm exists in one SG. AND the other SG has secondary side failure that results in a direct opening to the environment AND is being fed from the affected unit.
Hours Since SD	RIA 57 OR R/hr	RIA 58 OR R/hr																											
0 - <0.5	≥ 300	≥ 150																											
0.5 - < 2.0	≥ 80	≥ 40																											
2.0 - 8.0	≥ 32	≥ 16																											
Hours Since SD	RIA 57 OR R/hr	RIA 58 OR R/hr																											
0 - <0.5	≥ 1800	≥ 860																											
0.5 - < 2.0	≥ 400	≥ 195																											
2.0 - 8.0	≥ 280	≥ 130																											
HPI Forced Cooling	RCS pressure spike ≥ 2750 psig			Hydrogen concentration ≥ 9%	Containment isolation is incomplete and a release path to the environment exists																								
Emergency Coordinator/EOF Director judgment	Emergency Coordinator/EOF Director judgment	Emergency Coordinator/EOF Director judgment	Emergency Coordinator/EOF Director judgment	Emergency Coordinator/EOF Director judgment	Emergency Coordinator/EOF Director judgment																								
UNUSUAL EVENT (1-3 Total Points)		ALERT (4-6 Total Points)		SITE AREA EMERGENCY (7-10 Total Points)																									
OPERATING MODE: 1, 2, 3, 4		OPERATING MODE: 1, 2, 3, 4		OPERATING MODE: 1, 2, 3, 4																									
4.1.U.1 Any potential loss of Containment		4.1.A.1 Any potential loss or loss of the RCS		4.1.S.1 Loss of any two barriers																									
4.1.U.2 Any loss of containment		4.1.A.2 Any potential loss or loss of the Fuel Clad		4.1.S.2 Loss of one barrier and potential loss of either RCS or Fuel Clad Barriers																									
				4.1.S.3 Potential loss of both the RCS and Fuel Clad Barriers																									
				4.1.G.1 Loss of any two barriers and potential loss of the third barrier																									
				4.1.G.2 Loss of all three barriers																									

- NOTE:**
- An event with multiple events could occur which would result in the conclusion that exceeding the loss or potential loss threshold is **IMMINENT** (i.e., within 1-3 hours). In this **IMMINENT LOSS** situation, use judgment and classify as if the thresholds are exceeded.
 - Referencing this matrix frequently will aid in determining a fission barrier failure or other upgrade criteria.

Enclosure 4.2
System Malfunctions

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UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>1. RCS LEAKAGE (BD 15)</p> <p>OPERATING MODE: 1, 2, 3, 4</p> <p>A. Unidentified leakage \geq 10 gpm</p> <p>B. Pressure boundary leakage \geq 10 gpm</p> <p>C. Identified leakage \geq 25 gpm</p> <ul style="list-style-type: none"> Includes SG tube leakage <p>2. UNPLANNED LOSS OF MOST OR ALL SAFETY SYSTEM ANNUNCIATION/ INDICATION IN CONTROL ROOM FOR > 15 MINUTES (BD 16)</p> <p>OPERATING MODE: 1, 2, 3, 4</p> <p>A. <i>Unplanned</i> loss of > 50% of the following annunciators on one unit for > 15 minutes:</p> <p>Units 1 & 3 1 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, & 18 3 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, & 18</p> <p>Unit 2 2 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, & 16</p> <p>AND</p> <p>Loss of annunciators or indicators requires additional personnel (beyond normal shift complement) to safely operate the unit</p> <p style="text-align: center;">(CONTINUED)</p>	<p>1. UNPLANNED LOSS OF MOST OR ALL SAFETY SYSTEM ANNUNCIATION/ INDICATION IN CONTROL ROOM (BD 20)</p> <p>OPERATING MODE: 1, 2, 3, 4</p> <p>A. <i>Unplanned</i> loss of > 50% of the following annunciators on one unit for > 15 minutes:</p> <p>Units 1 & 3 1 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, & 18 3 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, & 18</p> <p>Unit 2 2 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, & 16</p> <p>AND</p> <p>Loss of annunciators or indicators requires additional personnel (beyond normal shift complement) to safely operate the unit</p> <p>AND</p> <p><i>Significant plant transient</i> in progress</p> <p>OR</p> <p>Loss of the OAC and ALL PAM indications</p> <p style="text-align: center;">(END)</p>	<p>1. INABILITY TO MONITOR A SIGNIFICANT TRANSIENT IN PROGRESS (BD 22)</p> <p>OPERATING MODE: 1, 2, 3, 4</p> <p>A. <i>Unplanned</i> loss of > 50% of the following annunciators on one unit for > 15 minutes:</p> <p>Units 1 & 3 1 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, & 18 3 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, & 18</p> <p>Unit 2 2 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, & 16</p> <p>AND</p> <p><i>A significant transient</i> is in progress</p> <p>AND</p> <p>Loss of the OAC and ALL PAM indications</p> <p>AND</p> <p><i>Inability to directly monitor</i> any one of the following functions:</p> <ol style="list-style-type: none"> Subcriticality Core Cooling Heat Sink RCS Integrity Containment Integrity RCS Inventory <p style="text-align: center;">(END)</p>	

Enclosure 4.2
System Malfunctions

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UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>3. INABILITY TO REACH REQUIRED SHUTDOWN WITHIN LIMITS (BD 17)</p> <hr/> <p>OPERATING MODE: 1, 2, 3, 4</p> <p>A. Required operating mode not reached within TS LCO action statement time</p> <p>4. UNPLANNED LOSS OF ALL ONSITE OR OFFSITE COMMUNICATIONS (BD 18)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. Loss of all onsite communications capability (Plant phone system, PA system, Pager system, Onsite Radio system) affecting ability to perform Routine operations</p> <p>B. Loss of all onsite communications capability (DEMNET, NRC ETS lines, Offsite Radio System, AT&T line) affecting ability to communicate with offsite authorities.</p> <p>5. FUEL CLAD DEGRADATION (BD 19)</p> <hr/> <p>OPERATING MODE: All:</p> <p>A. DEI ->5μCi/ml</p> <p style="text-align: center;">(END)</p>			

Enclosure 4.3
Abnormal Rad Levels/Radiological Effluent

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UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>1 ANY UNPLANNED RELEASE OF GASEOUS OR LIQUID RADIOACTIVITY TO THE ENVIRONMENT THAT EXCEEDS TWO TIMES THE SLC LIMITS FOR 60 MINUTES OR LONGER</p> <p><u>OPERATING MODE:</u> All</p> <p>A. <i>Valid</i> indication on radiation monitor RIA 33 of $\geq 4.06\text{E}+06$ cpm for > 60 minutes (See Note 1)</p> <p>B. <i>Valid</i> indication on radiation monitor RIA-45 of $\geq 9.35\text{E}+05$ cpm or RP sample reading of $\geq 6.62\text{E}+02$ uCi/ml Xe 133 eq for > 60 minutes (See Note 1)</p> <p>C. Liquid effluent being released exceeds two times SLC 16.11.1 for > 60 minutes as determined by Chemistry Procedure</p> <p>D. Gaseous effluent being released exceeds two times SLC 16.11.2 for > 60 minutes as determined by RP Procedure</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>NOTE 1: If monitor reading is sustained for the time period indicated in the EAL AND the required assessments (procedure calculations) cannot be completed within this period, declaration must be made on the <i>valid</i> Radiation Monitor reading.</p> </div> <p style="text-align: center;">(CONTINUED)</p>	<p>1. ANY UNPLANNED RELEASE OF GASEOUS OR LIQUID RADIOACTIVITY TO THE ENVIRONMENT THAT EXCEEDS 200 TIMES RADIOLOGICAL TECHNICAL SPECIFICATIONS FOR 15 MINUTES OR LONGER (BD 30)</p> <p><u>OPERATING MODE:</u> All</p> <p>A. <i>Valid</i> indication of RIA-46 of $\geq 2.09\text{E}+04$ cpm or RP sample reading of ≥ 6.62 uCi/ml Xe 133 eq for > 15 minutes. (See Note 1)</p> <p>B. RIA 33 HIGH Alarm</p> <p><u>AND</u></p> <p>Liquid effluent being released exceeds 200 times the level of SLC 16.11.1 for > 15 minutes as determined by Chemistry Procedure</p> <p>C. Gaseous effluent being released exceeds 200 times the level of SLC 16.11.2 for > 15 minutes as determined by RP Procedure</p> <p style="text-align: center;">(CONTINUED)</p>	<p>1. BOUNDARY DOSE RESULTING FROM ACTUAL/IMMINENT RELEASE OF GASEOUS ACTIVITY (BD 35)</p> <p><u>OPERATING MODE:</u> All</p> <p>A. <i>Valid</i> reading on RIA 46 of $\geq 2.09\text{E}+05$ cpm or RIA 56 reading of ≥ 17.5 R/hr or RP sample reading of $6.62\text{E}+01$ uCi/ml Xe 133 eq for > 15 minutes (See Note 2)</p> <p>B. <i>Valid</i> reading on RIA 57 or 58 as shown on Enclosure 4.8 (See Note 2)</p> <p>C. Dose calculations result in a dose projection at the <i>site boundary</i> of:</p> <p style="padding-left: 20px;">≥ 100 mRem TEDE</p> <p><u>OR</u></p> <p style="padding-left: 20px;">500 mRem CDE adult thyroid</p> <p>D. Field survey results indicate <i>site boundary</i> dose rates exceeding ≥ 100 mRad/hr expected to continue for more than one hour</p> <p><u>OR</u></p> <p style="padding-left: 20px;">Analyses of field survey samples indicate adult thyroid dose commitment of ≥ 500 mRem CDE (3.84E^{-7} uCi/ml) for one hour of inhalation</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>NOTE 2: If actual Dose Assessment cannot be completed within 15 minutes, then the <i>valid</i> radiation monitor reading should be used for emergency classification.</p> </div> <p style="text-align: center;">(CONTINUED)</p>	<p>1. BOUNDARY DOSE RESULTING FROM ACTUAL/ IMMINENT RELEASE OF GASEOUS ACTIVITY (BD 39)</p> <p><u>OPERATING MODE:</u> All</p> <p>A. <i>Valid</i> reading on RIA 46 of $\geq 2.09\text{E}+06$ cpm or RIA 56 reading of ≥ 175 R/hr or RP sample reading of $6.62\text{E}+02$ uCi/ml Xe 133 eq for ≥ 15 minutes (See Note 3)</p> <p>B. <i>Valid</i> reading on RIA 57 or 58 as shown on Enclosure 4.8 (See Note 3)</p> <p>C. Dose calculations result in a dose projection at the <i>site boundary</i> of:</p> <p style="padding-left: 20px;">≥ 1000 mRem TEDE</p> <p><u>OR</u></p> <p style="padding-left: 20px;">≥ 5000 mRem CDE adult thyroid</p> <p>D. Field survey results indicate <i>site boundary</i> dose rates exceeding ≥ 1000 mRad/hr expected to continue for more than one hour</p> <p><u>OR</u></p> <p style="padding-left: 20px;">Analyses of field survey samples indicate adult thyroid dose commitment of ≥ 5000 mRem CDE for one hour of inhalation</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>NOTE 3: If actual Dose Assessment cannot be completed within 15 minutes, then the <i>valid</i> radiation monitor reading should be used for emergency classification.</p> </div> <p style="text-align: center;">(END)</p>

Enclosure 4.3
Abnormal Rad Levels/Radiological Effluent

RP/0/A/1000/001
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UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>2 UNEXPECTED INCREASE IN PLANT RADIATION OR AIRBORNE CONCENTRATION (BD 27)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. LT 5 reading 14" and decreasing with makeup not keeping up with leakage <u>WITH</u> fuel in the core</p> <p>B. <i>Valid</i> indication of <i>uncontrolled</i> water decrease in the SFP or fuel transfer canal with all fuel assemblies remaining covered by water</p> <p>AND</p> <p>Unplanned <i>Valid</i> RIA 3, 6 or Portable Area Monitor readings increase.</p> <p>C. 1 R/hr radiation reading at one foot away from a damaged storage cask located at the ISFSI</p> <p>D. <i>Valid</i> area monitor readings exceeds limits stated in Enclosure 4.9.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>NOTE: This Initiating Condition is also located in Enclosure 4.4., (Loss of Shutdown Functions). High radiation levels will also be seen with this condition.</p> </div> <p style="text-align: center;">(END)</p>	<p>2. RELEASE OF RADIOACTIVE MATERIAL OR INCREASES IN RADIATION LEVELS THAT IMPEDES OPERATION OF SYSTEMS REQUIRED TO MAINTAIN SAFE OPERATION OR TO ESTABLISH OR MAINTAIN COLD SHUTDOWN (BD 32)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. <i>Valid</i> radiation reading ≥ 15 mRad/hr in CR, CAS, or Radwaste CR</p> <p>B. <i>Unplanned/unexpected valid</i> area monitor readings exceed limits stated in Enclosure 4.9</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>NOTE: These readings may also be indicative of Fission Product Barrier concerns which makes a review of the Fission Product Barrier Matrix necessary.</p> </div> <p>3. MAJOR DAMAGE TO IRRADIATED FUEL OR LOSS OF WATER LEVEL THAT HAS OR WILL RESULT IN THE UNCOVERING OF IRRADIATED FUEL OUTSIDE THE REACTOR VESSEL (BD 33)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. <i>Valid</i> RIA 3*, 6, 41, OR 49* HIGH Alarm * - Applies to Mode 6 and No Mode Only</p> <p>B. HIGH Alarm for portable area monitors on the main bridge or SFP bridge</p> <p>C. Report of visual observation of irradiated fuel uncovered</p> <p>D. Operators determine water level drop in either the SFP or fuel transfer canal will exceed makeup capacity such that irradiated fuel will be uncovered</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>NOTE: This Initiating Condition is also located in Enclosure 4.4., (Loss of Shutdown Functions). High radiation levels will also be seen with this condition.</p> </div> <p style="text-align: center;">(END)</p>	<p>2. LOSS OF WATER LEVEL IN THE REACTOR VESSEL THAT HAS OR WILL UNCOVER FUEL IN THE REACTOR VESSEL (BD 38)</p> <hr/> <p>OPERATING MODE: 5, 6</p> <p>A. Loss of all decay heat removal as indicated by the inability to maintain RCS temperature below 200° F</p> <p>AND</p> <p>LT 5 indicates 0 inches after initiation of RCS makeup</p> <p>B. Loss of all decay heat removal as indicated by the inability to maintain RCS temperature below 200° F</p> <p>AND</p> <p>Either train ultrasonic level indication less than 0 inches and decreasing after initiation of RCS makeup</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>NOTE: This Initiating Condition is also located in Enclosure 4.4., (Loss of Shutdown Functions). High radiation levels will also be seen with this condition.</p> </div> <p style="text-align: center;">(END)</p>	

Enclosure 4.4
Loss of Shutdown Functions

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UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
(CONTINUE TO NEXT PAGE)	<p>1. FAILURE OF RPS TO COMPLETE OR INITIATE A Rx SCRAM (BD 44)</p> <hr/> <p><u>OPERATING MODE:</u> 1, 2, 3</p> <p>A. <i>Valid</i> reactor trip signal received or required <u>WITHOUT</u> automatic scram</p> <p><u>AND</u></p> <p>DSS has inserted Control Rods</p> <p><u>OR</u></p> <p>Manual trip from the Control Room is successful and reactor power is less than 5% and decreasing</p>	<p>1. FAILURE OF RPS TO COMPLETE OR INITIATE A Rx SCRAM (BD 50)</p> <hr/> <p><u>OPERATING MODE:</u> 1, 2</p> <p>A. <i>Valid</i> reactor trip signal received or required <u>WITHOUT</u> automatic scram</p> <p><u>AND</u></p> <p>DSS has <u>NOT</u> inserted Control Rods</p> <p><u>AND</u></p> <p>Manual trip from the Control Room was <u>NOT</u> successful in reducing reactor power to less than 5% and decreasing</p>	<p>1. FAILURE OF RPS TO COMPLETE AUTOMATIC SCRAM AND MANUAL</p> <hr/> <p><u>OPERATING MODE:</u> 1, 2</p> <p>A. <i>Valid</i> Rx trip signal received or required <u>WITHOUT</u> automatic scram</p> <p><u>AND</u></p> <p>Manual trip from the Control Room was <u>NOT</u> successful in reducing reactor power to < 5% and decreasing</p> <p><u>AND</u></p> <p>Average of the 5 highest CETCs $\geq 1200^{\circ}\text{F}$ on ICCM</p> <p style="text-align: center;">(END)</p>
	<p>2. INABILITY TO MAINTAIN PLANT IN MODE 5 (COLD SHUTDOWN) (BD 46)</p> <hr/> <p><u>OPERATING MODE:</u> 5, 6</p> <p>A. Loss of LPI and/or LPSW</p> <p><u>AND</u></p> <p>Inability to maintain RCS temperature below 200°F as indicated by either of the following:</p> <p>RCS temperature at the LPI Pump Suction</p> <p><u>OR</u></p> <p>Average of the 5 highest CETCs as indicated by ICCM display</p> <p><u>OR</u></p> <p>Visual observation</p> <p style="text-align: center;">(CONTINUED)</p>	<p>2. COMPLETE LOSS OF FUNCTION NEEDED TO ACHIEVE OR MAINTAIN MODE 4 (HOT SHUTDOWN) (BD 51)</p> <hr/> <p><u>OPERATING MODE:</u> 1, 2, 3, 4</p> <p>A. Average of the 5 highest CETCs $\geq 1200^{\circ}\text{F}$ shown on ICCM</p> <p>B. Unable to maintain reactor subcritical</p> <p>C. Inability to feed SGs prior to RCS pressure reaching 2300 psig</p> <p><u>AND</u></p> <p>HPI Forced Cooling degraded by any of the following:</p> <ul style="list-style-type: none"> Unacceptable HPI flow/pressure in either header per EOP Rule 4 Only 1 HPI Pump available Either PORV (*RC-66) and/or PORV Block (*RC-4) closed <p style="text-align: center;">(CONTINUED)</p>	

Enclosure 4.4
Loss of Shutdown Functions

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UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>1. UNEXPECTED INCREASE IN PLANT RADIATION OR AIRBORNE CONCENTRATION (BD 42)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. LT 5 reading 14" and decreasing with makeup not keeping up with leakage WITH fuel in the core</p> <p>B. <i>Valid</i> indication of <i>uncontrolled</i> water decrease in the SFP or fuel transfer canal with all fuel assemblies remaining covered by water</p> <p>AND</p> <p><i>Unplanned Valid</i> RIA 3, 6 or Portable Area Monitor readings increase.</p> <p>C. 1 R/hr radiation reading at one foot away from a damaged storage cask located at the ISFSI</p> <p>D. <i>Valid</i> area monitor readings exceeds limits stated in Enclosure 4.9.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>NOTE: This Initiating Condition is also located in Enclosure 4.3., (Abnormal Rad Levels/Radiological Effluent). High radiation levels will also be seen with this condition.</p> </div> <p style="text-align: center;">(END)</p>	<p>3. MAJOR DAMAGE TO IRRADIATED FUEL OR LOSS OF WATER LEVEL THAT HAS OR WILL RESULT IN THE UNCOVERING OF IRRADIATED FUEL OUTSIDE THE REACTOR VESSEL (BD 48)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. <i>Valid</i> RIA 3*, 6, 41, OR 49* HIGH Alarm</p> <p>*Applies to Mode 6 and No Mode Only</p> <p>B. HIGH Alarm for portable area monitors on the main bridge or SFP bridge</p> <p>C. Report of visual observation of irradiated fuel uncovered</p> <p>D. Operators determine water level drop in either the SFP or fuel transfer canal will exceed makeup capacity such that irradiated fuel will be uncovered</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>NOTE: This Initiating Condition is also located in Enclosure 4.3, (Abnormal Rad Levels/Radiological Effluent). High radiation levels will also be seen with this condition.</p> </div> <p style="text-align: center;">(END)</p>	<p>3. LOSS OF WATER LEVEL IN THE REACTOR VESSEL THAT HAS OR WILL UNCOVER FUEL IN THE REACTOR VESSEL (BD 52)</p> <hr/> <p>OPERATING MODE: 5, 6</p> <p>A. Loss of all decay heat removal as indicated by the inability to maintain RCS temperature below 200° F</p> <p>AND</p> <p>LT-5 indicates 0 inches after initiation of RCS Makeup</p> <p>B. Loss of all decay heat removal as indicated by the inability to maintain RCS temperature below 200° F</p> <p>AND</p> <p>Either train ultrasonic level indication less than 0 inches and decreasing after initiation of RCS makeup</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>NOTE: This Initiating Condition is also located in Enclosure 4.3, (Abnormal Rad Levels/Radiological Effluent). High radiation levels will also be seen with this condition.</p> </div> <p style="text-align: center;">(END)</p>	

Enclosure 4.5
Loss of Power (4)

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UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>1. LOSS OF ALL OFFSITE POWER TO ESSENTIAL BUSES FOR GREATER THAN 15 MINUTES (BD 55)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. Unit auxiliaries are being supplied from Keowee or CT5</p> <p>AND</p> <p>Inability to energize either MFB from an offsite source (either switchyard) within 15 minutes.</p> <p>2. UNPLANNED LOSS OF REQUIRED DC POWER FOR GREATER THAN 15 MINUTES (BD 56)</p> <hr/> <p>OPERATING MODE: 5, 6</p> <p>A. <i>Unplanned</i> loss of vital DC power to required DC busses as indicated by bus voltage less than 110 VDC</p> <p>AND</p> <p>Failure to restore power to at least one required DC bus within 15 minutes from the time of loss</p> <p style="text-align: center;">(END)</p>	<p>1. LOSS OF ALL OFFSITE AC POWER AND LOSS OF ALL ONSITE AC POWER TO ESSENTIAL BUSES (BD 57)</p> <hr/> <p>OPERATING MODE: 5, 6 Defueled</p> <p>A. MFB 1 and 2 de-energized</p> <p>AND</p> <p>Failure to restore power to at least one MFB within 15 minutes from the time of loss of both offsite and onsite AC power</p> <p>2. AC POWER CAPABILITY TO ESSENTIAL BUSES REDUCED TO A SINGLE SOURCE FOR GREATER THAN 15 MINUTES (BD 58)</p> <hr/> <p>OPERATING MODE: 1, 2, 3, 4</p> <p>A. AC power capability has been degraded to a single power source for > 15 minutes due to the loss of all but one of the following:</p> <p style="padding-left: 20px;">Unit Normal Transformer (backcharged) Unit SU Transformer Another Unit SU Transformer (aligned) CT4 CT5</p> <p style="text-align: center;">(END)</p>	<p>1. LOSS OF ALL OFFSITE AC POWER AND LOSS OF ALL ONSITE AC POWER TO ESSENTIAL BUSES (BD 59)</p> <hr/> <p>OPERATING MODE: 1, 2, 3, 4</p> <p>A. MFB 1 and 2 de-energized</p> <p>AND</p> <p>Failure to restore power to at least one MFB within 15 minutes from the time of loss of both offsite and onsite AC power</p> <p>2. LOSS OF ALL VITAL DC POWER (BD 60)</p> <hr/> <p>OPERATING MODE: 1, 2, 3, 4</p> <p>A. <i>Unplanned</i> loss of vital DC power to required DC busses as indicated by bus voltage less than 110 VDC</p> <p>AND</p> <p>Failure to restore power to at least one required DC bus within 15 minutes from the time of loss</p> <p style="text-align: center;">(END)</p>	<p>1. PROLONGED LOSS OF ALL OFFSITE POWER AND ONSITE AC POWER (BD 62)</p> <hr/> <p>OPERATING MODE: 1, 2, 3, 4</p> <p>A. MFB 1 and 2 de-energized</p> <p>AND</p> <p>SSF fails to maintain Mode 3 (Hot Standby) {1}</p> <p>AND</p> <p>At least one of the following conditions exist:</p> <p style="padding-left: 20px;">Restoration of power to at least one MFB within 4 hours is NOT likely</p> <p>OR</p> <p style="padding-left: 20px;">Indications of continuing degradation of core cooling based on Fission Product Barrier monitoring</p> <p style="text-align: center;">(END)</p>
<p>Loss of Power - Emergency Action Levels (EALs) apply to the ability of electrical energy to perform its intended function, reach its intended equipment. ex. - If both MFBs, are energized but all 4160V switchgear is not available, the electrical energy can not reach the motors intended. The result to the plant is the same as if both MFBs were de-energized. {4}</p>			

Enclosure 4.6
Fire/Explosions and Security Actions (2) (3)

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UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>1. FIRES/EXPLOSIONS WITHIN THE PLANT (BD 65)</p> <hr/> <p><u>OPERATING MODE:</u> All</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>NOTE: Within the plant means:</p> <ul style="list-style-type: none"> Turbine Building Auxiliary Building Reactor Building Keowee Hydro Transformer Yard B3T B4T Service Air Diesel Compressors Keowee Hydro & associated Transformers SSF </div> <p>A. Fire within the plant not extinguished within 15 minutes of Control Room notification or verification of a Control Room alarm</p> <p>B. Unanticipated <i>explosion</i> within the plant resulting in <i>visible damage</i> to permanent structures/equipment</p> <ul style="list-style-type: none"> • includes steam line break and FDW line break <p style="text-align: center;">(Continued)</p>	<p>1. FIRE/EXPLOSION AFFECTING OPERABILITY OF PLANT SAFETY SYSTEMS REQUIRED TO ESTABLISH/MAINTAIN SAFE SHUTDOWN (BD 70)</p> <hr/> <p><u>OPERATING MODE:</u> All</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>NOTE: Only one train of a system needs to be affected or damaged in order to satisfy this condition.</p> </div> <p>A. <i>Fire/explosions</i></p> <p><u>AND</u></p> <p>Affected safety-related system parameter indications show degraded performance</p> <p><u>OR</u></p> <p>Plant personnel report <i>visible damage</i> to permanent structures or equipment required for safe shutdown</p> <p style="text-align: center;">(Continued)</p>	<p style="text-align: center;">(CONTINUE TO NEXT PAGE)</p>	<p style="text-align: center;">(CONTINUE TO NEXT PAGE)</p>

Enclosure 4.6
Fire/Explosions and Security Actions (2) (3)

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UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>2. CONFIRMED SECURITY CONDITION OR THREAT WHICH INDICATES A POTENTIAL DEGRADATION IN THE LEVEL OF SAFETY OF THE PLANT (BD 67)</p> <p><u>OPERATING MODE:</u> All</p> <p>A. Security condition that does not involve a HOSTILE ACTION as reported by the Security Shift Supervision.</p> <p>B. A <i>credible</i> site-specific security threat notification</p> <p>C. A validated notification from NRC providing information of an aircraft threat</p> <p>3. OTHER CONDITIONS EXIST WHICH IN THE JUDGEMENT OF THE EMERGENCY DIRECTOR WARRANT DECLARATION OF A NOUE. (BD 69)</p> <p><u>OPERATING MODE:</u> All</p> <p>A. Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.</p> <p style="text-align: center;">(END)</p>	<p>2. HOSTILE ACTION WITHIN THE OWNER CONTROLLED AREA OR AIRBORNE ATTACK THREAT. (BD 72)</p> <p><u>OPERATING MODE:</u> All</p> <p>A. A HOSTILE ACTION is occurring or has occurred within the OWNER CONTROLLED AREA as reported by the Security Shift Supervision.</p> <p>B. A validated notification from NRC of an AIRLINER attack threat within 30 minutes of the site.</p> <p>3. OTHER CONDITIONS EXIST WHICH IN THE JUDGEMENT OF THE EMERGENCY DIRECTOR WARRANT DECLARATION OF AN ALERT (BD 75)</p> <p><u>OPERATING MODE:</u> All</p> <p>A. Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.</p> <p style="text-align: center;">(END)</p>	<p>1. HOSTILE ACTION within the PROTECTED AREA (BD 76)</p> <p><u>OPERATING MODE:</u> All</p> <p>A. A HOSTILE ACTION is occurring or has occurred within the PROTECTED AREA as reported by the Security Shift Supervision.</p> <p>2. OTHER CONDITIONS EXIST WHICH IN THE JUDGEMENT OF THE EMERGENCY DIRECTOR WARRANT DECLARATION OF A SITE AREA EMERGENCY. (BD 78)</p> <p><u>OPERATING MODE:</u> All</p> <p>A. Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts; (1) toward site personnel or equipment that could lead to the likely failure of or; (2) that prevent effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the site boundary.</p> <p style="text-align: center;">(END)</p>	<p>1. A HOSTILE ACTION RESULTING IN LOSS OF PHYSICAL CONTROL OF THE FACILITY (BD 79)</p> <p><u>OPERATING MODE:</u> All</p> <p>A. A HOSTILE ACTION has occurred such that plant personnel are unable to operate equipment required to maintain safety functions</p> <p>B. A HOSTILE ACTION has caused failure of Spent Fuel Cooling Systems and IMMINENT fuel damage is likely for a FRESHLY OFF-LOADED REACTOR CORE in pool.</p> <p>2. OTHER CONDITIONS EXIST WHICH IN THE JUDGEMENT OF THE EMERGENCY DIRECTOR WARRANT DECLARATION OF A GENERAL EMERGENCY. (BD 81)</p> <p><u>OPERATING MODE:</u> All</p> <p>A. Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve actual or IMMINENT substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels off-site for more than the immediate site area.</p> <p style="text-align: center;">(END)</p>

Enclosure 4.7
Natural Disasters, Hazards and Other Conditions Affecting Plant Safety

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UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>1. NATURAL AND DESTRUCTIVE PHENOMENA AFFECTING THE PROTECTED AREA (BD 83)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. Tremor felt and <i>valid</i> alarm on the strong motion accelerograph</p> <p>B. Tornado striking within <i>Protected Area</i> Boundary</p> <p>C. Vehicle crash into plant structures/systems within the <i>Protected Area</i> Boundary</p> <p>D. Turbine failure resulting in casing penetration or damage to turbine or generator seals</p> <p style="text-align: center;">(CONTINUED)</p>	<p>1. NATURAL AND DESTRUCTIVE PHENOMENA AFFECTING THE PLANT VITAL AREA (BD 89)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. Tremor felt and seismic trigger actuates (0.05g)</p> <hr/> <p>NOTE: Only one train of a safety-related system needs to be affected or damaged in order to satisfy these conditions.</p> <p>B. Tornado, high winds, missiles resulting from turbine failure, vehicle crashes, or other catastrophic event</p> <p style="text-align: center;"><u>AND</u></p> <p style="text-align: center;"><i>Visible damage</i> to permanent structures or equipment required for safe shutdown of the unit.</p> <p style="text-align: center;"><u>OR</u></p> <p style="text-align: center;">Affected safety system parameter indications show degraded performance.</p> <p style="text-align: center;">(CONTINUED)</p>	(CONTINUE TO NEXT PAGE)	(CONTINUE TO NEXT PAGE)

Enclosure 4.7
Natural Disasters, Hazards and Other Conditions Affecting Plant Safety

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UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>2. NATURAL AND DESTRUCTIVE PHENOMENA AFFECTING KEOWEE HYDRO POTENTIAL FAILURE (CONDITION B) (BD 85)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. Reservoir elevation ≥ 805.0 feet with all spillway gates open and the lake elevation continues to rise</p> <p>B. Seepage readings increase or decrease greatly or seepage water is carrying a significant amount of soil particles</p> <p>C. New area of seepage or wetness, with large amounts of seepage water observed on dam, dam toe, or the abutments</p> <p>D. Slide or other movement of the dam or abutments which could develop into a failure</p> <p>E. Developing failure involving the powerhouse or appurtenant structures and the operator believes the safety of the structure is questionable</p> <p>3. NATURAL AND DESTRUCTIVE PHENOMENA AFFECTING JOCASSEE HYDRO POTENTIAL FAILURE (CONDITION B) (BD 86)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. POTENTIAL FAILURE (Condition B) has been declared for the Jocassee Dam</p> <p style="text-align: center;">(CONTINUED)</p>	<p>2. RELEASE OF TOXIC/FLAMMABLE GASES JEOPARDIZING SYSTEMS REQUIRED TO MAINTAIN SAFE OPERATION OR ESTABLISH/ MAINTAIN MODE 5 (COLD SHUTDOWN) (BD 91)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. Report/detection of <i>toxic gases</i> in concentrations that will be life-threatening to plant personnel</p> <p>B. Report/detection of flammable gases in concentrations that will affect the safe operation of the plant:</p> <ul style="list-style-type: none"> • Reactor Building • Auxiliary Building • Turbine Building • Control Room <p>3. TURBINE BUILDING FLOOD (BD 93)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. Turbine Building flood requiring use of AP/1,2,3/A/1700/10, (Turbine Building Flood)</p> <p>4. CONTROL ROOM EVACUATION HAS BEEN INITIATED (BD 94)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. Evacuation of Control Room</p> <p>AND ONE OF THE FOLLOWING:</p> <p>Plant control IS established from the Aux shutdown Panel or the SSF</p> <p>OR</p> <p>Plant control IS BEING established from the Aux Shutdown Panel or SSF</p> <p style="text-align: center;">(CONTINUED)</p>	<p>1. CONTROL ROOM EVACUATION AND PLANT CONTROL CANNOT BE ESTABLISHED (BD 96)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. Control Room evacuation has been initiated</p> <p>AND</p> <p>Control of the plant cannot be established from the Aux Shutdown Panel or the SSF within 15 minutes</p> <p>2. KEOWEE HYDRO DAM FAILURE (BD 97)</p> <hr/> <p>OPERATING MODE: All</p> <p>A. Imminent/actual dam failure exists involving any of the following:</p> <ul style="list-style-type: none"> • Keowee Hydro Dam • Little River Dam • Dikes A, B, C, or D • Intake Canal Dike • Jocassee Dam - IMMINENT FAILURE (Condition A) <p style="text-align: center;">(CONTINUED)</p>	<p style="text-align: center;">(CONTINUE TO NEXT PAGE)</p>

Enclosure 4.7
Natural Disasters, Hazards and Other Conditions Affecting Plant Safety

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UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
<p>4. RELEASE OF TOXIC OR FLAMMABLE GASES DEEMED DETRIMENTAL TO SAFE OPERATION OF THE PLANT (BD 87)</p> <hr/> <p><u>OPERATING MODE:</u> All</p> <p>A. Report/detection of toxic or flammable gases that could enter within the site area boundary in</p> <p>B. Report by local, county, state officials for potential evacuation of site personnel based on offsite event</p> <hr/> <p>5. OTHER CONDITIONS EXIST WHICH WARRANT DECLARATION OF AN UNUSUAL EVENT (BD 88)</p> <hr/> <p><u>OPERATING MODE:</u> All</p> <p>A. Emergency Coordinator determines potential degradation of level of safety has occurred</p> <p style="text-align: center;">(END)</p>	<p>5. OTHER CONDITIONS WARRANT CLASSIFICATION OF AN ALERT (BD 95)</p> <hr/> <p><u>OPERATING MODE:</u> All</p> <p>A. Emergency Coordinator judgment indicates that:</p> <p style="padding-left: 40px;">Plant safety may be degraded</p> <p style="text-align: center;"><u>AND</u></p> <p style="padding-left: 40px;">Increased monitoring of plant functions is warranted</p> <p style="text-align: center;">(END)</p>	<p>3. OTHER CONDITIONS WARRANT DECLARATION OF SITE AREA EMERGENCY (BD 98)</p> <hr/> <p><u>OPERATING MODE:</u> All</p> <p>A. Emergency Coordinator/EOF Director judgment</p> <p style="text-align: center;">(END)</p>	<p>1. OTHER CONDITIONS WARRANT DECLARATION OF GENERAL EMERGENCY (BD 99)</p> <hr/> <p><u>OPERATING MODE:</u> All</p> <p>A. Emergency Coordinator/EOF Director judgment indicates:</p> <p style="padding-left: 40px;">Actual/imminent substantial core degradation with potential for loss of containment</p> <p style="text-align: center;"><u>OR</u></p> <p style="padding-left: 40px;">Potential for <i>uncontrolled</i> radionuclide releases that would result in a dose projection at the site boundary greater than 1000 mRem TEDE or 5000 mRem CDE Adult Thyroid</p> <p style="text-align: center;">(END)</p>

Enclosure 4.8
Radiation Monitor Readings for Emergency Classification

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All RIA values are considered GREATER THAN or EQUAL TO

HOURS SINCE REACTOR TRIPPED	RIA 57 R/hr		RIA 58 R/hr*	
	Site Area Emergency	General Emergency	Site Area Emergency	General Emergency
0.0 - < 0.5	5.9E+003	5.9E+004	2.6E+003	2.6E+004
0.5 - < 1.0	2.6E+003	2.6E+004	1.1E+003	1.1E+004
1.0 - < 1.5	1.9E+003	1.9E+004	8.6E+002	8.6E+003
1.5 - < 2.0	1.9E+003	1.9E+004	8.5E+002	8.5E+003
2.0 - < 2.5	1.4E+003	1.4E+004	6.3E+002	6.3E+003
2.5 - < 3.0	1.2E+003	1.2E+004	5.7E+002	5.7E+003
3.0 - < 3.5	1.1E+003	1.1E+004	5.2E+002	5.2E+003
3.5 - < 4.0	1.0E+003	1.0E+004	4.8E+002	4.8E+003
4.0 - < 8.0	1.0E+003	1.0E+004	4.4E+002	4.4E+003

* RIA 58 is partially shielded

Enclosure 4.9
Unexpected/Unplanned Increase In Area Monitor Readings

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NOTE: This Initiating Condition is not intended to apply to anticipated temporary increases due to planned events (e.g.; incore detector movement, radwaste container movement, depleted resin transfers, etc.).

MONITOR NUMBER	UNITS 1, 2, 3	
	<i>UNUSUAL EVENT 1000x</i> NORMAL LEVELS mRAD/HR	<i>ALERT</i> mRAD/HR
RIA 7, Hot Machine Shop Elevation 796	150	≥ 5000
RIA 8, Hot Chemistry Lab Elevation 796	4200	≥ 5000
RIA 10, Primary Sample Hood Elevation 796	830	≥ 5000
RIA 11, Change Room Elevation 796	210	≥ 5000
RIA 12, Chem Mix Tank Elevation 783	800	≥ 5000
RIA 13, Waste Disposal Sink Elevation 771	650	≥ 5000
RIA 15, HPI Room Elevation 758	NOTE*	≥ 5000

NOTE: RIA 15 normal readings are approximately 9 mRad/hr on a daily basis. Applying 1000x normal readings would put this monitor greater than 5000 mRad/hr just for an *Unusual Event*. For this reason, an *Unusual Event* will **NOT** be declared for a reading less than 5000 mRad/hr.

1. List of Definitions and Acronyms

NOTE: Definitions are italicized throughout procedure for easy recognition.
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- 1.1 **ALERT** - Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.
- 1.2 **BOMB** – Refers to an explosive device suspected of having sufficient force to damage plant systems or structures.
- 1.3 **COGNIZANT FACILITY STAFF** - any member of facility staff, who by virtue of training and experience, is qualified to assess the indications or reports for validity and to compare the same to the EALs in the licensee's emergency classification scheme. (Does not include staff whose positions require they report, rather than assess, abnormal conditions to the facility.)
- 1.4 **CIVIL DISTURBANCE** - A group of persons violently protesting station operations or activities at the site.
- 1.5 **EXPLOSION** - A rapid, violent, unconfined combustion, or catastrophic failure of pressurized/energized equipment that imparts energy of sufficient force to potentially damage permanent structures, systems, or components.
- 1.6 **EXTORTION** - An attempt to cause an action at the station by threat of force.
- 1.7 **FIRE** - Combustion characterized by heat and light. Sources of smoke, such as slipping drive belts or overheated electrical equipment, do NOT constitute *fires*. Observation of flames is preferred but is NOT required if large quantities of smoke and heat are observed.
- 1.8 **FRESHLY OFF-LOADED CORE** - The complete removal and relocation of all fuel assemblies from the reactor core and placed in the spent fuel pool. (Typical of a "No Mode" operation during a refuel outage that allows safety system maintenance to occur and results in maximum decay heat load in the spent fuel pool system).
- 1.9 **GENERAL EMERGENCY** - Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guidelines exposure levels offsite for more than the immediate area.
- 1.10 **HOSTAGE** - A person(s) held as leverage against the station to ensure demands will be met by the station.

- 1.11 **HOSTILE ACTION** - An act toward an NPP or its personnel that includes the use of violent force to destroy equipment, takes HOSTAGES, and/or intimidates the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, PROJECTILES, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the NPP. Non-terrorism-based EALs should be used to address such activities, (e.g., violent acts between individuals in the owner controlled area.)
- 1.12 **HOSTILE FORCE** - One or more individuals who are engaged in a determined assault, overtly or by stealth and deception, equipped with suitable weapons capable of killing, maiming, or causing destruction.
- 1.13 **IMMINENT** - Mitigation actions have been ineffective, additional actions are not expected to be successful, and trended information indicates that the event or condition will occur. Where IMMINENT timeframes are specified, they shall apply.
- 1.14 **IMMINENT FAILURE (CONDITION A)** - The IMMINENT FAILURE emergency level indicates that time has run out, and the dam has failed, is failing or is about to fail. IMMINENT FAILURE typically involves a continuing and progressive loss of material from the dam. It is NOT usually possible to determine how long a complete breach of a dam will take. Therefore, once a decision is made that there is no time to prevent failure, the IMMINENT FAILURE warning must be issued. For purposes of evacuation, emergency management authorities should assume the worst-case condition that failure has already occurred. (Ref; Jocassee Hydro Station - Emergency Action Plan)
- 1.15 **INTRUSION** - A person(s) present in a specified area without authorization. Discovery of a BOMB in a specified area is indication of INTRUSION into that area by a HOSTILE FORCE.
- 1.16 **INABILITY TO DIRECTLY MONITOR** - Operational Aid Computer data points are unavailable or gauges/panel indications are NOT readily available to the operator.
- 1.17 **LOSS OF POWER** - Emergency Action Levels (EALs) apply to the ability of electrical energy to perform its intended function, reach its intended equipment. Ex. - If both MFBs, are energized but all 4160v switchgear is not available, the electrical energy can not reach the motors intended. The result to the plant is the same as if both MFBs were de-energized.
- 1.18 **POTENTIAL FAILURE (CONDITION B)** - The POTENTIAL FAILURE emergency level indicates that conditions are developing at the dam that could lead to a dam failure. Some examples are (1) rising reservoir levels that are approaching the top of the non-overflow section of the dam, (2) transverse cracking of an embankment, and (3) a verified bomb threat. POTENTIAL FAILURE should convey that time is available for analyses, decisions and actions before the dam could fail. A failure may occur, but predetermined response actions may moderate or alleviate failure. (Ref; Jocassee Hydro Station - Emergency Action Plan)
- 1.19 **PROJECTILE** - An object directed toward a NPP that could cause concern for its continued operability, reliability, or personnel safety.
- 1.20 **PROTECTED AREA** - Typically the site specific area which normally encompasses all controlled areas within the security PROTECTED AREA fence.

- 1.21 **REACTOR COOLANT SYSTEM (RCS) LEAKAGE** – RCS Operational Leakage as defined in the Technical Specification Basis B 3.4.13:

RCS leakage includes leakage from connected systems up to and including the second normally closed valve for systems which do not penetrate containment and the outermost isolation valve for systems which penetrate containment.

A. Identified LEAKAGE

LEAKAGE to the containment from specifically known and located sources, but does not include pressure boundary LEAKAGE or controlled reactor coolant pump (RCP) seal leakoff (a normal function not considered LEAKAGE).

LEAKAGE, such as that from pump seals, gaskets, or valve packing (except RCP seal water injection or leakoff), that is captured and conducted to collection systems or a sump or collecting tank;

LEAKAGE through a steam generator (SG) to the Secondary System (primary to secondary LEAKAGE): Primary to secondary LEAKAGE must be included in the total calculated for identified LEAKAGE.

B. Unidentified LEAKAGE

All LEAKAGE (except RCP seal water injection or leakoff) that is not identified LEAKAGE.

C. Pressure Boundary LEAKAGE

LEAKAGE (except primary to secondary LEAKAGE) through a nonisolable fault in an RCS component body, pipe wall or vessel wall.

- 1.22 **RUPTURED** (As relates to Steam Generator) - Existence of Primary to Secondary leakage of a magnitude sufficient to require or cause a reactor trip and safety injection.
- 1.23 **SABOTAGE** - Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment inoperable. Equipment found tampered with or damaged due to malicious mischief may not meet the definition of SABOTAGE until this determination is made by security supervision.
- 1.24 **SECURITY CONDITION** – Any Security Event as listed in the approved security contingency plan that constitutes a threat/compromise to site security, threat/risk to site personnel, or a potential degradation to the level of safety of the plant. A SECURITY CONDITION does not involve a HOSTILE ACTION.
- 1.25 **SAFETY-RELATED SYSTEMS AREA** - Any area within the *Protected area* which contains equipment, systems, components, or material, the failure, destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation.
- 1.26 **SELECTED LICENSEE COMMITMENT (SLC)** -Chapter 16 of the FSAR

- 1.27 **SIGNIFICANT PLANT TRANSIENT** - An *unplanned* event involving one or more of the following:
- (1) Automatic turbine runback > 25% thermal reactor power
 - (2) Electrical load rejection > 25% full electrical load
 - (3) Reactor Trip
 - (4) Safety Injection System Activation
- 1.28 **SITE AREA EMERGENCY** - Events are in process or have occurred which involve actual or likely major failures of plant functions needed for the protection of the public. or HOSTILE ACTION that results in intentional damage or malicious act; (1) toward site personnel or equipment that could lead to the likely failure of or; (2) that prevents effective access to equipment needed for the protection of the public. Any releases are NOT expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the Site Boundary.
- 1.29 **SITE BOUNDARY** - That area, including the *Protected Area*, in which DPC has the authority to control all activities including exclusion or removal of personnel and property (1 mile radius from the center of Unit 2).
- 1.30 **TOXIC GAS** - A gas that is dangerous to life or health by reason of inhalation or skin contact (e.g.; Chlorine).
- 1.31 **UNCONTROLLED** - Event is not the result of planned actions by the plant staff.
- 1.32 **UNPLANNED** - An event or action is UNPLANNED if it is not the expected result of normal operations, testing, or maintenance. Events that result in corrective or mitigative actions being taken in accordance with abnormal or emergency procedures are UNPLANNED.
- 1.33 **UNUSUAL EVENT** - Events are in process or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.
- 1.34 **VALID** - An indication or report or condition is considered to be VALID when it is conclusively verified by: (1) an instrument channel check; or, (2) indications on related or redundant instrumentation; or, (3) by direct observation by plant personnel such that doubt related to the instrument's operability, the condition's existence, or the report's accuracy is removed. Implicit with this definition is the need for timely assessment.
- 1.35 **VIOLENT** - Force has been used in an attempt to injure site personnel or damage plant property.

- 1.36 **VISIBLE DAMAGE** - Damage to equipment or structure that is readily observable without measurements, testing, or analyses. Damage is sufficient to cause concern regarding the continued operability or reliability of affected safety structure, system, or component. Example damage: deformation due to heat or impact, denting, penetration, rupture.
- 1.37 **VITAL AREA** - An area within the protected area where an individual is required to badge in to gain access to the area and that houses equipment important for nuclear safety. The failure or destruction of this equipment could directly or indirectly endanger the public health and safety by exposure to radiation.

Enclosure 4.11
Operating Modes Defined In Improved
Technical Specifications

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MODES

MODE	TITLE	REACTIVITY CONDITION (K_{eff})	% RATED THERMAL POWER (a)	AVERAGE REACTOR COOLANT TEMPERATURE (°F)
1	Power Operation	≥ 0.99	> 5	NA
2	Startup	≥ 0.99	≤ 5	NA
3	Hot Standby	< 0.99	NA	≥ 250
4	Hot Shutdown (b)	< 0.99	NA	$250 > T > 200$
5	Cold Shutdown (b)	< 0.99	NA	≤ 200
6	Refueling (c)	NA	NA	NA

(a) Excluding decay heat.

(b) All reactor vessel head closure bolts fully tensioned.

(c) One or more reactor vessel head closure bolts less than fully tensioned

1. Instructions For Using Enclosure 4.1 – Fission Product Barrier Matrix

- 1.1 If the unit was at Hot S/D or above, (Modes 1, 2, 3, or 4) and one or more fission product barriers have been affected, refer to Enclosure 4.1, (Fission Product Barrier Matrix) and review the criteria listed to determine if the event should be classified.

- 1.1.1 For each Fission Product Barrier, review the associated EALs to determine if there is a Loss or Potential Loss of that barrier.

NOTE: An event with multiple events could occur which would result in the conclusion that exceeding the loss or potential loss thresholds is imminent (i.e. within 1-3 hours). In this situation, use judgment and classify as if the thresholds are exceeded.

- 1.2 Three possible outcomes exist for each barrier. No challenge, potential loss, or loss. Use the worst case for each barrier and the classification table at the bottom of the page to determine appropriate classification.
- 1.3 The numbers in parentheses out beside the label for each column can be used to assist in determining the classification. If no EAL is met for a given barrier, that barrier will have 0 points. The points for the columns are as follows:

<u>Barrier</u>	<u>Failure</u>	<u>Points</u>
RCS	Potential Loss	4
	Loss	5
Fuel Clad	Potential Loss	4
	Loss	5
Containment	Potential Loss	1
	Loss	3

- 1.3.1 To determine the classification, add the highest point value for each barrier to determine a total for all barriers. Compare this total point value with the numbers in parentheses beside each classification to see which one applies.

Enclosure 4.12
Instructions For Using Enclosure 4.1

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- 1.3.2 Finally as a verification of your decision, look below the Emergency Classification you selected. The loss and/or potential loss EALs selected for each barrier should be described by one of the bullet statements.

EXAMPLE: Failure to properly isolate a 'B' MS Line Rupture outside containment, results in extremely severe overcooling.

PTS entry conditions were satisfied.

Stresses on the 'B' S/G resulted in failure of multiple S/G tubes.

RCS leakage through the S/G exceeds available makeup capacity as indicated by loss of subcooling margin.

Barrier	EAL	Failure	Points
RCS	SGTR > Makeup capacity of one HPI pump in normal makeup mode with letdown isolated	Potential Loss	4
	Entry into PTS operating range	Potential Loss	4
	RCS leak rate > available makeup capacity as indicated by a loss of subcooling	Loss	5
Fuel Clad	No EALs met and no justification for classification on judgment	No Challenge	0
Containment	Failure of secondary side of SG results in a direct opening to the environment	Loss	3

RCS 5 + Fuel 0 + Containment 3 = Total 8

- A. Even though two Potential Loss EALs and one Loss EAL are met for the RCS barrier, credit is only taken for the worst case (highest point value) EAL, so the points from this barrier equal 5.
- B. No EAL is satisfied for the Fuel Clad Barrier so the points for this barrier equal 0.
- C. One Loss EAL is met for the Containment Barrier so the points for this barrier equal 3.
- D. When the total points are calculated the result is 8, therefore the classification would be a *Site Area Emergency*.
- E. Look in the box below "*Site Area Emergency*". You have identified a loss of two barriers. This agrees with one of the bullet statements. The classification is correct.

1 References:

1. PIP O-05-02980
2. PIP O-05-4697
3. PIP O-06-0404
4. PIP O-06-03347
5. PIP O-09-00234
6. PIP O-10-1055
7. PIP O-10-01750
8. PIP O-11-02811
9. PIP O-12-1590
10. PIP O-10-7809
11. PIP O-12-9201
12. PIP O-12-9198
13. PIP O-12-11227
14. PIP O-14-10064 and PIP O-14-11470
15. PIP O-13-6662
16. PIP O-14-13933
17. 10 CFR 50.72
18. Jocassee Hydro Station - Emergency Action Plan