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L-02-108

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Subject: Beaver Valley Power Station, Unit No. 1 and No. 2
BV-1 Docket No. 50-334, License No. DPR-66
BV-2 Docket No. 50-412, License No. NPF-73
Beaver Valley Power Station Emergency Preparedness Plan and Implementing Procedures (Volumes 1, 2 and 3)

In accordance with 10 CFR Part 50.4, this letter forwards recent revisions of the Beaver Valley Power Station Emergency Preparedness Plan (Volume 1) and Implementing Procedures (Volumes 2 and 3) to the Nuclear Regulatory Commission. The changes do not decrease the effectiveness of the Plan and the Plan, as changed, continues to meet the requirements of Appendix E of 10 CFR 50. Therefore, 10 CFR Part 50.54(q) requires that these changes be submitted for information only.

There are no regulatory commitments contained in this letter. If there are any questions concerning this submittal, please contact Ms. Susan L. Vicinie, Manager, Emergency Preparedness at 724-682-5767.

Sincerely,

Mark B. Bezilla

Enclosure 1 – Summary of Changes
Enclosure 2 – Plan/Procedure revisions

c: Mr. D. S. Collins, NRR Project Manager (w/o Enclosure 2)
Mr. D. M. Kern, NRC Sr. Resident Inspector (w/o Enclosure 2)
Mr. H. J. Miller, NRC Region I Administrator (2 copies)

A045

Enclosure 1
Summary of Changes

Revisions to
Beaver Valley Power Station
Emergency Preparedness Plan and Implementing Procedures
(Volumes 1, 2 and 3)

The following is a brief summary of the changes made to the Emergency Preparedness Plan/Implementing Procedures.

Emergency Preparedness Plan (Volume 1):

EPP-TOC "Emergency Preparedness Plan Table of Contents"

Appendix C "Emergency Implementing Procedure Listing"

Revision 13 updated the procedure listing with the proper procedure titles.

EPP/Implementing Procedures:

EPP/I-1a "Recognition and Classification of Emergency Conditions" (Unit 1)

Revision 3 updated the ODCM values in Table 7-1 due to the addition of Zn-65 to the Reactor Coolant System.

EPP/I-1b "Recognition and Classification of Emergency Conditions" (Unit 2)

Revision 3 updated the ODCM values in Table 7-1 due to the addition of Zn-65 to the Reactor Coolant System.

EPP/IP 2.2 "Onsite Monitoring for Airborne Release"

Revision 11 resulted in a total reformatting of this procedure. Section A was renamed "PURPOSE" and had several minor changes. Section B was replaced with the former section E, "REFERENCES," which had a new Condition Report reference added. A new section "RESPONSIBILITIES" was added as Section C. The "PRECAUTIONS" section was renamed "ACTION LEVELS/ PRECAUTIONS" and is now Section D. The steps in this section were rearranged and renumbered, with new steps (under D.5.0) added for monitoring team vehicles. Section E (formerly section D) "PROCEDURE" was also rearranged and renumbered, with two new notes added (under E.5.0) regarding airborne activity. A new section "FINAL CONDITIONS" was added and will now be Section F. The previous section F "ATTACHMENTS" is now Section G. Attachment 3 was updated with a new site map. Minor clarifications were also made to Attachments 4 and 5.

EPP/IP 9.4 "Activation, Operation and Deactivation of the Joint Public Information Center (JPIC)"

Revision 9 made a change in Attachment 1, clarifying Step 2 on page 10 (of 17) of the attachment, to note that the Media Monitor position reports to the Information Coordinator "through the Rumor Control Coordinator."

EPP/IMPLEMENTING PROCEDURES - EFFECTIVE INDEX

INSTRUCTIONS

EPP/I-1a	Recognition and Classification of Emergency Conditions	Revision 3
EPP/I-1b	Recognition and Classification of Emergency Conditions	Revision 3
EPP/I-2	Unusual Event	Revision 18
EPP/I-3	Alert	Revision 17
EPP/I-4	Site Area Emergency	Revision 17
EPP/I-5	General Emergency	Revision 18

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1.1	Notification	Revision 30
1.2	Communications and Dissemination of Information	Revision 17
1.3	Turnover Status Checklist ED/ERM	Revision 9
1.4	Technical Support Center (TSC) Activation, Operation and Deactivation	Revision 17
1.5	Operations Support Center (OSC) Activation, Operation and Deactivation	Revision 14
1.6	Emergency Operations Facility (EOF) Activation, Operation and Deactivation	Revision 15
1.7	Emergency Response Organization (ERO) Teams	Revision 9

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2.2	Onsite Monitoring for Airborne Release	Revision 11
2.3	Offsite Monitoring for Airborne Release	Revision 12
2.4	Offsite Monitoring for Liquid Release	Revision 8
2.5	Emergency Environmental Monitoring	Revision 10
2.6	Environmental Assessment and Dose Projection Controlling Procedure	Revision 14
2.6.1	Dose Projection - Backup Methods	Revision 10
2.6.2	Dose Projection - ARERAS/MIDAS With FSAR Defaults	Revision 12
2.6.3	Dose Projection - ARERAS/MIDAS With Real-Time Inputs	Revision 12
2.6.4	Dose Projection - ARERAS/MIDAS With Manual Inputs	Revision 13
2.6.5	Alternate Meteorological Parameters	Revision 10
2.6.6	Dose Projections By Hand Calculation - Known Isotopic Release	Revision 6
2.6.7	Dose Assessment Based on Field Measurements	Revision 7
2.6.8	Dose Assessment Based on Environmental Measurements and Samples	Revision 6
2.6.9	Integrated Dose Assessment	Revision 5
2.6.10	Ground Contamination Assessment and Protective Action	Revision 7

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		2.6.12 Dose Projection -ARERAS/MIDAS With Severe Accident Assessment	Revision 9
	2.7	Liquid Release Estimate	Revision 6
		2.7.1 Liquid Release Estimate - Computer Method	Revision 9
EPP/IP		**3 Series - Onsite Protective Actions**	
	3.1	Evacuation	Revision 8
	3.2	Site Assembly and Personnel Accountability	Revision 12
	3.3	Emergency Contamination Control	Revision 7
	3.4	Emergency Respiratory Protection	Revision 8
	3.5	Traffic and Access Control	Revision 9
EPP/IP		**4 Series - Offsite Protective Actions**	
	4.1	Offsite Protective Actions	Revision 16
EPP/IP		**5 Series - Aid to Personnel**	
	5.1	Search and Rescue	Revision 7
	5.2	RESERVED	
	5.3	Emergency Exposure Criteria and Control	Revision 8
	5.4	Emergency Personnel Monitoring	Revision 7

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	6.2 Revision 10	Termination of the Emergency and Recovery	
EPP/IP		**7 Series - Maintaining Emergency Preparedness**	
	7.1	Emergency Equipment Inventory and Maintenance Procedure	Revision 13
	7.2	Administration of Emergency Preparedness Plan, Drills and Exercises	Revision 9
EPP/IP		**8 Series - Fire Fighting**	
	8.1	Fires in Radiologically Controlled Areas	Revision 10
EPP/IP		**9 Series - Nuclear Communications**	
	9.1	Emergency Public Information Emergency Response Organization Controlling Procedure	Revision 11
	9.2	Reserved	
	9.3	Activation, Operation and Deactivation of the Emergency Public Information Organization Emergency Operations Facility (EOF)	Revision 4
	9.4	Activation, Operation and Deactivation of the Joint Public Information Center (JPIC)	Revision 9
	9.5	Activation, Operation and Deactivation of the Penn Power Customer Account Services Department	Revision 6
EPP/IP		**10 Series - Corporate Response**	
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Annex B -	DELETED	
Annex C -	Major Injury Involving Radioactive Contamination For The Medical Center, Beaver	Revision 9
Annex D -	Procedure for Transferring Radiation Casualties to the Radiation Emergency Response Program (UPMC Presbyterian)	Revision 8
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Appendix C

Emergency Implementing Procedure

Listing

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EPP/IMPLEMENTING PROCEDURES

INSTRUCTIONS

EPP/I

1a	Recognition and Classification of Emergency Conditions
1b	Recognition and Classification of Emergency Conditions
2	Unusual Event
3	Alert
4	Site Area Emergency
5	General Emergency

IMPLEMENTING PROCEDURES

EPP/IP **I Series-Activation**

1.1	Notification
1.2	Communication and Dissemination of Information
1.3	Turnover Status Checklist - ED/ERM
1.4	Technical Support Center (TSC) Activation, Operation and Deactivation
1.5	Operations Support Center (OSC) Activation, Operation and Deactivation
1.6	Emergency Operations Facility (EOF) Activation, Operation and Deactivation
1.7	Emergency Response Organization (ERO) Teams

EPP/IP

2 Series-Assessment

2.1 Emergency Radiological Monitoring

2.2 Onsite Monitoring for Airborne Release

2.3 Offsite Monitoring for Airborne Release

2.4 Offsite Monitoring for Liquid Release

2.5 Emergency Environmental Monitoring

2.6 Environmental Assessment and Dose Projection Controlling Procedure

2.6.1 Dose Projection - Backup Methods

2.6.2 Dose Projections - ARERAS/MIDAS With FSAR Defaults

2.6.3 Dose Projection - ARERAS/MIDAS With Real-Time Inputs

2.6.4 Dose Projection - ARERAS/MIDAS With Manual Inputs

2.6.5 Alternate Meteorological Parameters

2.6.6 Dose Projection by Hand Calculation - Known Isotopic Release

2.6.7 Dose Assessment Based on Field Measurements

2.6.8 Dose Assessment Based on Environmental Measurements and Samples

2.6.9 Integrated Dose Assessment

2.6.10 Ground Contamination Assessment and Protective Actions

2.6.11 Dose Projection Miscellaneous Data

2.6.12 Dose Projection - ARERAS/MIDAS With Severe Accident Management

2.7 Liquid Release Estimate

2.7.1 Liquid Release Estimate - Computer Method

EPP/IP **3 Series-Onsite Protective Actions**

3.1 Evacuation

3.2 Site Assembly and Personnel Accountability

3.3 Emergency Contamination Control

3.4 Emergency Respiratory Protection

3.5 Traffic and Access Control

EPP/IP **4 Series-Offsite Protective Actions**

4.1 Offsite Protective Actions

EPP/IP **5 Series-Aid to Personnel**

5.1 Search and Rescue

5.2 Reserved

5.3 Emergency Exposure Criteria and Control

5.4 Emergency Personnel Monitoring

EPP/IP **6 Series-Re-Re-entry/Recovery**

6.1 Re-entry to Affected Areas--Criteria and Guidance

6.2 Termination of the Emergency and Recovery

EPP/IP **7 Series--Maintaining, Emergency Preparedness**

7.1 Emergency Equipment Inventory and Maintenance Procedure

7.2 Administration of Emergency Preparedness Plan, Drills and Exercises

EPP/IP **8 Series-Fire Fighting**

8.1 Fires in Radiologically Controlled Areas

EPP/IP **9 Series-Nuclear Communications**

9.1 Emergency Public Information Emergency Response Organization Controlling Procedure

9.2 Reserved

9.3 Activation, Operation and Deactivation of the Emergency Public Information Organization Emergency Operations Facility (EOF)

9.4 Activation, Operation and Deactivation of the Joint Public Information Center (JPIC)

9.5 Activation, Operation and Deactivation of the Penn Power Customer Account Services Department

EPP/IP **10 Series-Corporate Response**

10.1 Emergency Response Organization Corporate Support

EPP/IP **Annexes**

Annex A - Westinghouse Emergency Response Plan

Annex B - DELETED

Annex C - Major Injury Involving Radioactive Contamination For The Medical Center, Beaver

Annex D - Procedures for Transferring Radiation Casualties to the Radiation Emergency Response Program (UPMC Presbyterian)

Annex E - Reserved

RECOGNITION AND CLASSIFICATION OF EMERGENCY CONDITIONS

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EFFECTIVE INDEX

Issue 8 Rev.	0	OSC Approved	3-12-87
	1	OSC Approved	8-13-87
	2	OSC Approved	10-8-87
	3	OSC Approved	2-9-88
	4	OSC Approved	2-9-89
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	6	OSC Approved	4-18-89
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Issue 9 Rev.	0	Non-Intent Revision	10-9-90
	1	OSC Approved	4-4-91
	2	Non-Intent Revision	12-29-92
	3	OSC Approved	1-27-93
Rev.	5	OSC Approved	12-9-93
	6	OSC Approved	10-7-94
	7	OSC Approved	7-22-98
	8	Non-Intent Revision	12-31-99
Rev.	0	OSC Approved	4-17-01
Rev.	1	Non-Intent Revision	12-12-01
Rev.	2	Simple Change	8-28-02
Rev.	3	Simple Change	11-8-02

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A. Purpose

B. References

C. Responsibilities

D. Action Levels/Precautions

E. Procedure

F. Final Condition

G. Attachments

A. PURPOSE

1.0 This procedure describes the immediate actions to be taken to recognize and classify an emergency condition.

2.0 This procedure identifies the four emergency classifications and emergency action levels.

3.0 Reporting requirements for non-emergency abnormal events are provided.

B. REFERENCES

1.0 Beaver Valley Power Station Emergency Preparedness Plan and Implementing Procedures.

2.0 Title 10, Code of Federal Regulations Part 50, Appendix E.

3.0 NUREG-0654/FEMA-REP-1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

4.0 Beaver Valley Power Station Operating Manual

5.0 NUMARC/NESP-007, Methodology for Development of Emergency Action Levels

6.0 ERS-SFL-91-041-REV 1 (U1/U2 Containment Monitor Readings due to LOCA's with various Source Terms).

7.0 Condition Report #992522

8.0 Condition Report #991327-1

9.0 Unit 1 Technical Specification Amendment 204 and Unit 2 Technical Specification Amendment 101.

10.0 EPPOS #2 "Emergency Preparedness Position (EPPOS) on Timeliness of Classification of Emergency Conditions".

11.0 NEI 99-02 "Regulatory Assessment Performance Indicator Guideline"

12.0 Condition Report #00-3939

13.0 Condition Report #99-1234

14.0 Condition Report #02-02125-02

15.0 Condition Report #02-05069

16.0 Unit 1 Technical Specification Amendment 244

17.0 Calculation Package No. ERS-ATL-93-021

18.0 ODCM Procedure 1/2-ODC-2.01

19.0 Calculation Package No. ERS-HHM-87-014

20.0 Calculation Package No. ERS-SFL-86-005

21.0 Calculation Package No. ERS-SFL-99-014

C. RESPONSIBILITY

The Emergency Director (Shift Manager, until properly relieved by a designated alternate) has the responsibility and authority for the performance of the actions prescribed in this procedure.

D. ACTION LEVELS/PRECAUTIONS/GUIDANCE

1.0 ACTION LEVELS

1.1 An off-normal event has occurred.

1.2 An action step in a plant operating or emergency operating procedure refers to this procedure for classification of the indicated plant condition.

2.0 PRECAUTIONS

2.1 The Emergency Director must review all applicable EALs to ensure that the event is properly classified since a given INDICATOR may be associated with more than one CRITERION. A particular INDICATOR omitted from the fission product barrier matrix may be addressed as an event-based EAL in one of the other tabs. Event-based EALs may escalate to the fission product barrier matrix. The Emergency Director may need to consider related events (*e.g., fire and explosion*) or the possible consequences of the event (*e.g., fire in an MCC resulting in loss of AC*) in classifying an event.

2.2 Continued surveillance and assessment of plant conditions are necessary to ensure that the emergency classification is appropriately revised as conditions change, or as more definitive information is obtained.

2.3 If there is any doubt with regard to assessment of a particular EAL, the EAL Basis Document (*i.e., Chapter 4 of the EPP*) entry for that EAL can be reviewed. Classifications shall be consistent with the fundamental definitions of the four emergency classifications (tabulated in Tab 4.7).

2.4 The Emergency Director shall take whatever mitigative or restoration actions are necessary to protect public health and safety. The Emergency Director shall not reject courses of action solely on the basis that the action would result in escalation of the emergency classification.

3.0 GUIDANCE

3.1 Structure of the EALs

3.1.1 There are two types of Emergency Action Levels included in this procedure:

3.1.1.1 Barrier-Based EALs: These EALs address conditions that represent potential losses, or losses, of one or more of the Fuel Clad, RCS, or Containment fission product barriers. INDICATORs of these conditions include CRITICAL SAFETY FUNCTION status, fundamental indications such as subcooling or reactor vessel water level, or auxiliary indications such as containment radiation monitor readings. Classifications are based on the number of barriers lost or potentially lost.

3.1.1.2 Event-Based EALs: These EALs address discrete conditions or events that are generally precursors to fission product barrier degradation, or are otherwise degradations in the level of safety of the plant. Events may be external (*e.g., severe weather, earthquakes, loss of offsite power*) internal (*e.g., fires, explosions, instrumentation failure*) or may involve radioactivity releases.

3.1.2 The EALs are grouped by recognition category as follows:

Tab 1 Fission Product Barrier Matrix
Tab 2 System Degradation
Tab 3 Loss of Power
Tab 4 Hazards and ED Judgement
Tab 5 Destructive Phenomena
Tab 6 Shutdown Systems Degradation
Tab 7 Radiological

3.1.3 Each of the EAL tabs includes one or more columns that address one initiating condition (*e.g., fires*). Each column provides EALs for each of the four emergency classifications, as applicable. A notation adjacent to each EAL identifies the plant operating mode(s) for which the EAL is applicable.

3.1.4 Each EAL is comprised of a CRITERION, printed in bold type, and one or more INDICATORs. The purpose of each is as follows:

3.1.4.1 CRITERION: identifies the emergency condition and any numeric values which define that condition (*i.e., the basis of the declaration*) All classifications are based on an assessment *(i.e., determination that the condition is VALID)* by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

3.1.4.2 INDICATOR: is available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Upon occurrence of one or more indicators, the Emergency Director performs an assessment against the criterion. Depending on the particular condition, this assessment may be as simple as a review of the criterion, an instrument channel check, or a detailed calculation as in the case of a radioactivity release.

3.1.4.3 Inherent in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

3.1.4.4 The INDICATORs were selected with the objective of providing unambiguous guidance to assist with assessment of the CRITERION. There may be other INDICATORs not envisioned by the writers of this procedure that, in the judgment of the Emergency Director, correspond to the CRITERION. In these cases, the Emergency Director should base the declaration on engineering judgment, using the supplied INDICATORs as examples of the severity of the condition.

3.2 Common Plant Conditions

3.2.1 IF an event occurs such that both reactor units are affected, e.g., tornado, toxic gas offsite, etc., THEN the senior Shift Manager shall make the appropriate classification and assume the role of Emergency Director.

3.2.2 IF the common plant condition results in a higher emergency classification at one reactor unit, THEN the Shift Manager from that unit shall make the appropriate classification and assume the role of Emergency Director.

3.3 Mode Applicability

3.3.1 The plant operating mode that existed at the time that the event occurred, prior to any protective system or operator action initiated in response to the condition, is compared to the mode applicability of the EALs.

3.3.2 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 that the event occurred.

3.3.3 The fission product barrier matrix is applicable only to those events that occur at mode 4 or higher. An event that occurs in modes 5 or 6 shall not be classified using the fission product barrier matrix, even if mode 4 is entered due to subsequent heatup. In these cases, Tab 6, Shutdown Systems Degradation, shall be used for classification.

3.4 Transient Events

3.4.1 For some EALs the existence of the event, without regard to duration, is sufficient to warrant classification. In these cases, the appropriate emergency classification is declared as soon as the Emergency Director assessment concludes that the CRITERION is met.

3.4.2 Some EALs specify a duration of occurrence. For these EALs the classification is made when Emergency Director assessment concludes that the specified duration is exceeded or will be exceeded (*i.e., condition can not be reasonably rectified before the duration elapses*), whichever is sooner.

3.4.3 IF a plant condition meeting an EAL CRITERION is rectified before the specified duration time is exceeded, THEN the event is NOT classified by that EAL. Lower severity EALs, if any, shall be reviewed for possible applicability in these cases.

3.4.4 IF a plant condition meeting an EAL CRITERION is NOT classified 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. However, reporting under 10 CFR 50.72 may be required. Such a condition could occur, for example, if a followup evaluation of an abnormal condition uncovers evidence that the condition was more severe than earlier believed.

3.4.5 IF an emergency classification was warranted, but the plant condition has been rectified (such that the CRITERION is no longer met) prior to declaration and notification, THEN the following guidance applies:

3.4.5.1 For transient events that would have been declared as UNUSUAL EVENTS, no emergency is declared. However, the event shall be reported to those local, state, and Federal agencies designated to receive the initial notification form. These agencies shall be told that the UNUSUAL EVENT condition was rectified upon detection and no emergency is being declared.

3.4.5.2 For transient events that would have been declared as an ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY, the event shall be declared and the emergency response organization activated. The EAL CRITERIA for these events has been set at a threshold that warrants declaration even if the initiating condition has been rectified. Termination can occur when the criteria of EPP/IP-6.2, *Termination of the Emergency and Recovery* can be satisified.

3.5 Declaration Timing and Assessment

Emergency conditions shall be classified as soon as the Emergency Director assessment of the INDICATORs shows that the CRITERION is met. IF the EAL specifies a duration, THEN the event shall be declared as soon as it is determined that the condition cannot be corrected within the specified period. In either case, the assessment time starts from the indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

3.5.1 The assessment time is limited to 15 minutes, except as follows:

3.5.1.1 IF the EAL specifies a duration (*e.g., release exceeds 2x T/S for one hour*), THEN the assessment time runs concurrently with the required duration AND is the same length (*e.g., in this example, one hour*).

3.5.1.2 The assessment time and any required duration are NOT additive.

3.5.2 IF the assessment cannot be completed within the specified period, THEN the event must be declared on the basis of INDICATORs that cannot be reasonably discounted.

3.6 Bases

3.6.1 Chapter 4 of the BVPS EPP provides the bases for these EALs. The bases can be used for guidance to assist the Emergency Director in classifying events for which the classification is not immediately apparent.

3.7 Defined Terms

3.7.1 In the EALs, words written in bold uppercase letters are defined terms having specific meanings as they relate to this procedure. Definitions of these terms are provided on the reverse side of most pages in the EAL section of this procedure. Such terms shall be interpreted as provided in the definitions.

E. PROCEDURE

1.0 DETERMINE OPERATING MODE THAT EXISTED AT THE TIME THAT THE EVENT OCCURRED PRIOR TO ANY PROTECTION SYSTEM OR OPERATOR ACTION INITIATED IN RESPONSE TO THE EVENT.

2.0 DETERMINE IF THE CONDITION AFFECTS FISSION PRODUCT BARRIERS AND, IF SO, PROCEED TO TAB 1.

2.1 IF the condition involves any of the following AND the initial mode was 1-4 THEN proceed to Tab 1 and follow instructions provided AND continue with Step 2.2.

2.1.1 CSF status tree ORANGE PATH or RED PATH conditions
2.1.2 Core exit thermocouple readings above 719 F

2.1.3 Reactor vessel full range water level less than 40% (no RCPs)
2.1.4 Elevated RCS activity >300 μCi/gm
2.1.5 Elevated Containment High Range Area Radiation Monitor reading
2.1.6 RCS leakrate large enough to require a 2nd charging pump
2 1.7 Loss of RCS subcooling
2.1.8 Steam Generator Tube Rupture
2.1.9 Containment bypass or loss of integrity
2.1.10 Rise in containment pressure or hydrogen concentration

2.2 Consider other related event-based EALs. IF other EALs are applicable, THEN perform Steps 3.0 and 4.0 if necessary. Otherwise, go to Step 5.0

3.0 CATEGORIZE THE EVENT INTO ONE OF THE INITIATING CONDITIONS AND LOCATE THE TAB.

3.1 Locate one of the EAL indices provided at the start of each tab.

3.2 Review the index to identify the tab that addresses the event that has occurred.

3.3 Turn to the appropriate tab.

NOTE:

The assessment of an emergency condition shall be completed as soon as possible and within 15 minutes of the occurance of one or more INDICATORs. IF the assessment cannot be completed within the specified period, THEN the event must be declared on the basis of INDICATORs that cannot be reasonably discounted.

NOTE:

IF the EAL specifies a duration (*e.g., release exceeds 2x T/S for one hour*), THEN the assessment time runs concurrently with the required duration AND is the same length.

4.0 ASSESS THE EVENT AND COMPARE TO THE EALS

4.1 Locate the EAL for the highest severity emergency classification that is applicable for the initiating condition and operating mode

4.2 Review the INDICATORs and CRITERION for that EAL

4.3 IF the specified INDICATORs are not observed, THEN:

4.3.1 Proceed to the next lower severity EAL and re-perform step 4.2 & 4.3.

4.3.2 IF none of the EALs for an initiating condition are met, THEN re-perform steps 3.0 and 4.0 for related initiating conditions.

4.3.3 IF the actions above do not identify an applicable EAL, THEN review the observed conditions against Tab 4.7, Hazards and Emergency Director Judgment.

4.3.4 IF, after performing the above, no EAL is identified, THEN proceed to step 6.0.

4.4 IF the specified INDICATORs are observed, THEN:

4.4.1 Perform necessary assessments to validate the instrument readings and/or confirm reported observations.

4.4.2 Initiate any sampling, inspections, or dose assessments specified by the EAL.

NOTE:

IF the CRITERION specifies an event or condition duration, THEN the classification shall be made as soon as the duration is exceeded, OR when it is apparent that the duration will be exceeded, whichever is earlier.

4.4.3 Compare the results of the assessments to the CRITERION.

NOTE

A given INDICATOR may apply to more than one CRITERION. The Emergency Director shall review other related EALs for applicability.

4.5 IF the assessment concludes that the CRITERION is met, THEN the classification shall be made. Proceed to Step 5.0

4.6 IF the assessment concludes that the CRITERION is not met, THEN re-perform steps 3.0 and 4.0 for other related initiating conditions as applicable.

4.7 IF no classification results from the above, THEN proceed to step 6.0.

NOTE:

The declaration of the emergency classification shall be made as soon as the Emergency Director has assessed that the EAL has been met OR will be met, AND within 15 minutes of occurance of the INDICATOR. Once the emergency is classified, notifications to state and local governments shall be completed within 15 minutes of the declaration.

5.0 DECLARE THE EMERGENCY CLASSIFICATION AND TRANSITION TO RESPONSE PROCEDURES

5.1 IF an UNUSUAL EVENT is declared, THEN proceed to EPP/I-2

5.2 IF an ALERT is declared, THEN proceed to EPP/I-3

5.3 IF a SITE AREA EMERGENCY is declared, THEN proceed to EPP/I-4

5.4 IF a GENERAL EMERGENCY is declared, THEN proceed to EPP/I-5

NOTE:

The step below is implemented only if an emergency classification is NOT made. IF a classification is made, THEN the transition indicated in step 5.0 should have been made.

6.0 EVALUATE THE NEED FOR AND MAKE NON-EMERGENCY NOTIFICATIONS

6.1 IF the abnormal condition is reportable to the NRC pursuant to 10 CFR 50.72 and 1/2-ADM-2202, THEN perform the following:

6.1.1 Complete the NRC Reactor Plant Event Notification Worksheet (located on the Regulatory Affairs web page).

6.1.2 Notify First Energy Communications of the event and provide the information on the NRC Reactor Plant Event Notification Worksheet.

6.2 IF directed by station management, THEN make courtesy calls to the following state and local agencies on a timely basis consistent with normal working hours.

6.2.1 BCEMA
6.2.2 PEMA
6.2.3 CCEMA
6.2.4 HCOES

F. FINAL CONDITIONS

1.0 For emergency events, the transition to the appropriate response procedure has been made and actions pursuant to that procedure are in progress.

2.0 For non-emergency events, required notifications have been completed.

G. ATTACHMENTS

1.0 Tabs for Classification of Emergency Conditions

H. FIGURES

1.0 Figures are identified on the EAL indices

FISSION PRODUCT BARRIER MATRIX - U1

1.1 Fuel Clad Barrier

1.1.1 Critical Safety Function Status

LOSS	Potential LOSS
Core Cooling CSF RED PATH	Core Cooling CSF ORANGE PATH OR Heat Sink CSF RED PATH

-OR-

1.1.2 Five Hottest CETCs

LOSS	Potential LOSS
Greater than 1200 F	Greater than 719 F

-OR-

1.1.3 Reactor Vessel Water Level

LOSS	Potential LOSS
Not Applicable	RVLIS Full Range <40% (no RCPs running)

-OR-

1.1.4 Primary Coolant Activity Level

LOSS	Potential LOSS
RCS activity >300 µCi/gm dose equivalent Iodine-131	Not Applicable

-OR-

1.1.5 Letdown Monitor Indication

LOSS	Potential LOSS
RM-CH101 A or B VALID reading greater than 3.5E5 cpm with letdown unisolated	Not Applicable

-OR-

1.1.6 Containment Radiation Monitors

LOSS	Potential LOSS
VALID reading exceeds:	Not applicable

Time After S/D, hrs	RM-219A/B R/hr	RM-201* mR/hr
0-0 5	250	1500
0 5-4	140	800
4-12	74	380
12-24	42	200

* Due to streaming thru airlock

-OR-

1.1.7 Emergency Director Judgement

Any condition that, in the judgement of the SM/ED, indicates loss or potential loss of the Fuel Clad barrier comparable to the indicators listed above.

LOSS ☐ Potential LOSS ☐

1.2 RCS Barrier

1.2.1 Critical Safety Function Status

LOSS	Potential LOSS
Not applicable	RCS Integrity CSF RED PATH OR Heat Sink CSF RED PATH

-OR-

1.2.2 Reactor Vessel Water Level

LOSS	Potential LOSS
RVLIS Full Range <40% (no RCPs running)	Not Applicable

-OR-

1.2.3 RCS Leak Rate

LOSS	Potential LOSS
RCS leak results in loss of RCS subcooling	Unisolable RCS leak that requires an additional charging pump be started with letdown isolated. OR RCS leak causes safety injection actuation indicated by direct entry into EOP E-1 required by EOP E-0

-OR-

1.2.4 Primary to Secondary Leak

LOSS	Potential LOSS
SGTR that results in a safety injection actuation OR Entry into E-3 required by EOPs	Not Applicable

-OR-

1.2.5 Containment Radiation Monitors

LOSS	Potential LOSS
+VALID reading above background exceeds:	Not Applicable

Time After S/D, hrs	RM-202 mR/hr	RM-201* mR/hr
0-0 5	35	0 5
0 5-4	20	0 3
4-12	11	0 1
12-24	6	N/A

\+ Readings based on T/S RCS activity

* Due to streaming thru airlock

-OR-

1.2.6 Emergency Director Judgement

Any condition that, in the judgement of the SM/ED, indicates loss or potential loss of the RCS barrier comparable to the indicators listed above.

LOSS ☐ Potential LOSS ☐

1.3 CNMT Barrier

1.3.1 Critical Safety Function Status

LOSS	Potential LOSS
Not Applicable	CNMT CSF RED PATH OR Actions of FR-C.1 (RED PATH) are INEFFECTIVE

-OR-

1.3.2 Containment Pressure / Hydrogen Conc.

LOSS	Potential LOSS
Rapid unexplained drop in CNMT pressure following initial rise OR CNMT pressure or sump level response NOT consistent with LOCA conditions	CNMT pressure >45 PSIG OR CNMT H2 rises >4% OR CNMT pressure >8 PSIG with less than one full train of CNMT spray

-OR-

1.3.3 Containment Isolation Status

LOSS	Potential LOSS
CNMT isolation is incomplete creating a direct release path to the environment when required	Not Applicable

-OR-

1.3.4 Containment Bypass

LOSS	Potential LOSS
RUPTURED S/G is also FAULTED Outside of CNMT OR P-to-S leakrate > T/S with approx. 4-8 hr. steam release from affected S/G via nonisolable MSSV, SGADV, or from MSLB outside of CNMT	Unexplained VALID rise in reading on area or ventilation monitors in contiguous areas with known LOCA OR Hi-Hi Alarm on RM-RW-100A,B,C, or D AND affected HX is NOT isolated

-OR-

1.3.5 Significant Radioactivity in Containment

LOSS	Potential LOSS
Not applicable	VALID reading exceeds:

Time After S/D, hrs	RM-219A/B R/hr	RM-201* mR/hr
0-0 5	1 5E4	1 0E5
0 5-4	5 2E3	3 4E4
4-12	2 2E3	1 3E4
12-24	1 0E3	6 0E3

* Due to streaming thru airlock

-OR-

1.3.6 Emergency Director Judgement

Any condition that, in the judgement of the SM/ED, indicates loss or potential loss of the Containment barrier comparable to the indicators listed above.

LOSS ☐ Potential LOSS ☐

Modes: 1,2,3,4
INSTRUCTIONS

NOTE: An INDICATOR is considered to be MET if the stated threshold has been, or is, reached or exceeded, on the basis of confirmed observation or VALID instrument readings. The Emergency Director must use judgement when classifying parameters that may be transitory (e.g., containment pressure).

NOTE: The INDICATOR should be considered MET if the parameter is indeterminate due to instruments that are not available or out of range and the existence of the condition can not be reasonably discounted.

NOTE: An INDICATOR is considered to be MET if, in the judgement of the Emergency Director, the INDICATOR will be MET imminently (i e., within 1 to 2 hours in the absence of a viable success path). The classification shall be made as soon as this determination is made.

1. In the matrix to the left, review the LOSS INDICATORS in each barrier column. If one or more INDICATORS are met, check the LOSS block at the bottom of the column.
2. If no LOSS is identified for a particular barrier, review the potential LOSS INDICATORS for that barrier. If one or more INDICATORS are met, check the potential LOSS block at the bottom of the barrier column.
3. Compare the blocks checked to the CRITERIA below and make the appropriate declaration.

CRITERIA

GENERAL EMERGENCY

LOSS of any Two (2) barriers and Potential LOSS of third barrier.

OR

LOSS of all three (3) barriers.

SITE AREA EMERGENCY

LOSS or Potential LOSS of any Two (2) barriers.

OR

LOSS of one (1) barrier and a Potential LOSS of a second barrier.

ALERT

Any LOSS or Potential LOSS of Fuel Clad barrier.

OR

Any LOSS or Potential LOSS of RCS barrier.

UNUSUAL EVENT

LOSS or Potential LOSS of CNMT barrier.

SEE ALSO EAL'S:

2.4 Fuel Clad Degradation (RCS Specific Activity >LCO)
2.5 RCS Unidentified or Pressure Boundry Leakage
2.6 RCS Identified Leakage

1.1, 1.2, 1.3

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition (*i.e., the basis of the declaration*) All classifications are based on an assessment (*i.e., determination that the condition is VALID*) by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

CRITICAL SAFETY FUNCTION (CSFs): A plant safety function required to prevent significant release of core radioactivity to the environment. There are six CSFs. Subcriticality, Core Cooling, Heat Sink, Vessel Integrity *(Pressurized Thermal Shock)*, Integrity *(Containment)* and Inventory *(RCS)*.

EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A.

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded.

INEFFECTIVE: The specified restoration action(s) does not result in a reduction in the level of severity of the RED PATH condition within 15 minutes from identification of the Core Cooling CSF Status Tree RED PATH TERMINUS. A reduction in the level of severity is an improvement in the applicable parameters (e g., increasing trend in reactor vessel water level (RVLIS full range) and/or decreasing trend on core thermocouple temperatures).

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

PROJECTILE: An object ejected, thrown, or launched towards structure. The source of the projectile may be onsite or offsite. Potential for damage is sufficient to cause concern regarding the integrity of the affected structure or the operability or reliability of safety equipment contained therein.

The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge.

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A.

STRIKE ACTION: A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on the BVPS or one of its vendors. The STRIKE ACTION must threaten to interrupt normal plant operations to be considered.

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

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.

With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases, unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e.g , alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank).

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 indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment (i.e., within 15 minutes).

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 includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

VITAL AREA is any area within the PROTECTED AREA wh contains equipment, systems, components, or material, the failu destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation

2.1 Loss of Instrumentation

Mode	Criterion / Indicator
	Refer to Tab 1 "Fission Product Barrier Matrix" and Tab 7 "Radiological Effluents"
1 2 3 4	**Inability to monitor a SIGNIFICANT TRANSIENT in progress** *[1 and 2 and 3 and 4]* 1. Loss of most (>75%) annunciators <u>or</u> indications 2. **SIGNIFICANT TRANSIENT** in progress 3. Loss of SER <u>and</u> SPDS 4. Inability to directly monitor any of the following CSFs: Subcriticality — Vessel Integrity Core Cooling — Containment Heat Sink
1 2 3 4	**UNPLANNED loss of most annunciators <u>or</u> indications for >15 minutes with either a SIGNIFICANT TRANSIENT in progress <u>or</u> a loss of non-alarming compensatory indications** *[1 and 2 and 3]* 1. **UNPLANNED** loss of most (>75%) annunciators <u>or</u> indications for >15 minutes 2. SM judgement that additional personnel (beyond normal shift complement) are required to monitor the safe operation of the unit 3. *[a or b]* a. **SIGNIFICANT TRANSIENT** in progress b. Loss of SER <u>and</u> SPDS
1 2 3 4	**UNPLANNED loss of most annunciators <u>or</u> indications for >15 minutes** *[1 and 2]* 1. **UNPLANNED** loss of most (>75%) annunciators <u>or</u> indications for >15 minutes 2. SM judgement that additional personnel (beyond normal shift complement) are required to monitor the safe operation of the unit

2.2 Loss of Function

Mode	*Criterion / Indicator*
1 2 3 4	**Inability to cool the core** *[1 or 2]* 1. Actions of FR-C.1 **(RED PATH)** are **INEFFECTIVE** 2. *[a and b]* a. Five hottest core exit thermocouples >1200 F; or five hottest core exit thermocouples >719 F with NO RCPs running <u>and</u> RVLIS full range level <40% b. Actions taken have NOT resulted in a rising trend in RVLIS full range level <u>or</u> a dropping trend in core exit thermocouple temperatures within 15 minutes of initiation of restoration actions
1 2 3 4	**Loss of function needed to achieve <u>or</u> maintain hot shutdown** *[1 or 2]* 1. Ops personnel report a CSF status tree **RED PATH** terminus for core cooling or heat sink exists 2 Five hottest core exit thermocouples >1200 F; or five hottest core exit thermocouples >719 F with NO RCPs running <u>and</u> RVLIS full range level <40% Also Refer *to Tab 2.3 "Failure of Reactor Protection" and Tab 1 "Fission Product Barrier Matrix"*
1 2 3 4	**Complete loss of function needed to achieve Cold Shutdown when Shutdown required by Tech Specs** *[1 and 2 and 3]* 1. Loss of decay heat removal capability (RHR, CCR or RPRW) / (RHS, CCP, SWS) 2. Inability to remove heat via the condenser 3. Shutdown to mode 5 required by T/S
ALL	**UNPLANNED Loss of communications** *[1 or 2]* 1. In-plant *[a and b and c]* a. **UNPLANNED** Loss of All Pax Phones b. **UNPLANNED** Loss of All Gaitronics (Page/Party) c. **UNPLANNED** Loss of All Radios (Handie-Talkies) 2. Offsite *[a and b and c]* a. **UNPLANNED** Loss of ENS b. **UNPLANNED** Loss of Bell Lines c. **UNPLANNED** Loss of Radios to Offsite

2.3 Failure of Rx Protection

Mode	Criterion / Indicator
1 2	**Reactor power >5% after VALID trip signal(s) <u>and</u> loss of core cooling capability** *[1 and 2]* 1. Ops personnel report FR-S.1 has been entered <u>and</u> subsequent actions do NOT result in reduction of power to <5% and decreasing 2. *[a or b]* a Ops personnel report CSF status tree **RED PATH** terminus exists for core cooling or heat sink b. Five hottest core exit thermocouples >1200 F; or five hottest core exit thermocouples >719 F with NO RCPs running <u>and</u> RVLIS full range level <40%
1 2	**Reactor trip failure after VALID Trip signal(s) with reactor power >5% and attempts to cause a manual trip from the control room are unsuccessful.** 1. Ops personnel report FR-S.1 has been entered <u>and</u> manual reactor trip from control room did NOT result in reduction of power to <5% and decreasing
1 2	**Automatic reactor trip did not occur after VALID trip signal and manual trip from control room was successful** *[1 and 2]* 1. **VALID** reactor trip signal received or required. 2 Manual reactor trip from control room was successful and power is <5% and decreasing
	Not Applicable

2.4 Fuel Clad Degradation

Mode	Criterion / Indicator
	Refer to Tab 1 "Fission Product Barrier Matrix"
	Refer to Tab 1 "Fission Product Barrier Matrix"
	Refer to Tab 1 "Fission Product Barrier Matrix"
1 2 3 4 5	**Reactor coolant system specific activity exceeds LCO (refer to BVPS technical specification 3.4.8)** *[1 or 2]* 1. **VALID** high alarm on RM-CH-101A <u>or</u> B reactor coolant letdown monitor 2. Radiochemistry analysis exceeds Technical Specification 3.4 8

GENERAL — SITE AREA — ALERT — UNUSUAL EVENT

SYSTEM DEGRADATION - U1

2.1, 2.2, 2.3, 2.4

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition (*i.e., the basis of the declaration*) All classifications are based on an assessment (*i.e., determination that the condition is VALID*) by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

CRITICAL SAFETY FUNCTION (CSFs): A plant safety function required to prevent significant release of core radioactivity to the environment. There are six CSFs: Subcriticality, Core Cooling, Heat Sink, Vessel Integrity *(Pressurized Thermal Shock)*, Integrity *(Containment)* and Inventory *(RCS)*.

EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A.

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i.e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded.

INEFFECTIVE: The specified restoration action(s) does not result in a reduction in the level of severity of the RED PATH condition within 15 minutes from identification of the Core Cooling CSF Status Tree RED PATH TERMINUS. A reduction in the level of severity is an improvement in the applicable parameters (e.g., increasing trend in reactor vessel water level (RVLIS full range) and/or decreasing trend on core thermocouple temperatures).

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

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The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge.

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A.

STRIKE ACTION: A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on the BVPS or one of its vendors. The STRIKE ACTION must threaten to interrupt normal plant operations to be considered.

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

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.

With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases. unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e.g., alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank).

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 indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment (i.e., within 15 minutes).

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 includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

VITAL AREA is any area within the PROTECTED AREA wh contains equipment, systems, components, or material, the failu destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation

SYSTEM DEGRADATION - U1

2.5 RCS Unidentified Leakage

	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 1 "Fission Product Barrier Matrix"*
SITE AREA		*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT		*Refer to Tab 1 "Fission Product Barrier Matrix"*
UNUSUAL EVENT	1 2 3 4 5*	**Unidentified <u>or</u> pressure boundary RCS leakage >10 GPM** 1. Unidentified or pressure boundary leakage (as defined by Technical Specifications) >10 GPM as indicated below *[a or b]* a. OST 1.6.2 results b. With RCS temp. <u>and</u> PZR level stable, VCT level dropping at a rate >10 GPM (>1%/min indicated on LI-CH-115 with no VCT makeup in progress) **Applies to Mode 5 if RCS Pressurized*

2.6 RCS Identified Leakage

	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 1 "Fission Product Barrier Matrix"*
SITE AREA		*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT		*Refer to Tab 1 "Fission Product Barrier Matrix"*
UNUSUAL EVENT	1 2 3 4 5*	**Identified RCS leakage >25 GPM** 1. Identified RCS leakage (as defined by Technical Specifications) >25 GPM as indicated below *[a or b]* a. OST 1.6.2 or 1.6.2A Results b. **UNPLANNED** level rise in excess of 25 GPM total into PRT, DG-TK-1, and DG-TK-2 **Applies to Mode 5 if RCS Pressurized*

2.7 Technical Specification

	Mode	Criterion / Indicator
GENERAL		*Not Applicable*
SITE AREA		*Not Applicable*
ALERT		*Refer to Tab 2.2, "Loss of Function"*
UNUSUAL EVENT	1 2 3 4	**Inability to Reach Required Shutdown Mode Within Technical Specification Time Limits** *[1 and 2]* 1. A Technical Specification action statement, requiring a mode reduction, has been entered 2. The unit has NOT been placed in the required mode within the time prescribed by the action statement

2.8 Safety Limit

	Mode	Criterion / Indicator
GENERAL		*Not Applicable*
SITE AREA		*Not Applicable*
ALERT		*Not Applicable*
UNUSUAL EVENT	1 2 3 4 5	**Safety Limit Has Been Exceeded** *[1 or 2]* 1. Technical Specification 2.1.1 specifies the safety limits for the reactor core which are applicable in Modes 1 and 2. 2. Technical Specification 2.1.2 specifies the safety limit for the Reactor Coolant System pressure which is applicable in Modes 1, 2, 3, 4 and 5.

2.5, 2.6, 2.7, 2.8

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition (*i.e., the basis of the declaration*). All classifications are based on an assessment (*i e., determination that the condition is VALID*) by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded

CRITICAL SAFETY FUNCTION (CSFs): A plant safety function required to prevent significant release of core radioactivity to the environment. There are six CSFs: Subcriticality, Core Cooling, Heat Sink, Vessel Integrity *(Pressurized Thermal Shock)*, Integrity *(Containment)* and Inventory *(RCS)*

EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100 Refer to Figure 7-A.

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i e , steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded.

INEFFECTIVE: The specified restoration action(s) does not result in a reduction in the level of severity of the RED PATH condition within 15 minutes from identification of the Core Cooling CSF Status Tree RED PATH TERMINUS. A reduction in the level of severity is an improvement in the applicable parameters (e.g., increasing trend in reactor vessel water level (RVLIS full range) and/or decreasing trend on core thermocouple temperatures).

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

PROJECTILE: An object ejected, thrown, or launched towards a structure. The source of the projectile may be onsite or offsite. Pot for damage is sufficient to cause concern regarding the integrity of the affected structure or the operability or reliability of safety equipment contained therein.

The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge.

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A.

STRIKE ACTION: A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on the BVPS or one of its vendors The STRIKE ACTION must threaten to interrupt normal plant operations to be considered.

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

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

With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases, unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e.g., alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank).

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 indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment (i e., within 15 minutes).

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 includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

VITAL AREA is any area within the PROTECTED AREA which contains equipment, systems, components, or material, the failu destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation

	2.9 Turbine Failure	
	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 1 "Fission Product Barrier Matrix"*
SITE AREA		*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT	1 2 3	**Turbine failure generated missiles cause penetration of a missile shield wall of any area containing safety related equipment** 1. Plant personnel report missiles generated by turbine failure with casing penetration also results in a through-wall penetration of a missile shield wall listed in Table 2-1
UNUSUAL EVENT	1 2 3	**Turbine failure results in casing penetration** 1. Plant personnel report a turbine failure which results in penetration of the turbine casing <u>or</u> damage to main generator seals with evidence of significant hydrogen or seal oil leakage

2.10 Steam/Feed Line Break	
Mode	Criterion / Indicator
	Refer to Tab 1 "Fission Product Barrier Matrix"
	Refer to Tab 1 "Fission Product Barrier Matrix"
	Refer to Tab 1 "Fission Product Barrier Matrix"
1 2 3 4	**UNPLANNED rapid depressurization of the Main Steam System resulting in a rapid RCS cooldown <u>and</u> Safety Injection actuation** *[1 and 2]* 1. Ops personnel report rapid depressurization of Main Steam System that causes SLI (<500 psig) 2. Ops personnel report Safety Injection has actuated

Table 2-1
Plant Areas Associated With Shield Wall Penetration EAL

Control Room	Cable Tray Mezz
Electrical Switchgear	Containment
Safeguards	Primary Aux. Building
Diesel Generator Bldg	1WT-TK-10

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition (*i.e., the basis of the declaration*). All classifications are based on an assessment (*i.e., determination that the condition is VALID*) by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

CRITICAL SAFETY FUNCTION (CSFs): A plant safety function required to prevent significant release of core radioactivity to the environment. There are six CSFs: Subcriticality, Core Cooling, Heat Sink, Vessel Integrity *(Pressurized Thermal Shock)*, Integrity *(Containment)* and Inventory *(RCS)*.

EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i e , steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded.

INEFFECTIVE: The specified restoration action(s) does not result in a reduction in the level of severity of the RED PATH condition within 15 minutes from identification of the Core Cooling CSF Status Tree RED PATH TERMINUS. A reduction in the level of severity is an improvement in the applicable parameters (e.g., increasing trend in reactor vessel water level (RVLIS full range) and/or decreasing trend on core thermocouple temperatures).

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

PROJECTILE: An object ejected, thrown, or launched towards a plant structure. The source of the projectile may be onsite or offsite. Pot for damage is sufficient to cause concern regarding the integrity o the affected structure or the operability or reliability of safety equipment contained therein.

The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge.

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A

STRIKE ACTION: A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on the BVPS or one of its vendors The STRIKE ACTION must threaten to interrupt normal plant operations to be considered

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

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

With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases, unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e g., alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank).

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 indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment (i.e., within 15 minutes).

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 includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

VITAL AREA is any area within the PROTECTED AREA which contains equipment, systems, components, or material, the fai destruction, or release of which could directly or indirectly endanger public health and safety by exposure to radiation

LOSS OF POWER - U1

3.1 Loss of AC (Power Ops)

	Mode	Criterion / Indicator
GENERAL	1 2 3 4	**Prolonged loss of offsite and onsite AC power** *[1 and 2]* 1. AE and DF 4KV emergency buses NOT energized from Unit 1 sources for >15 minutes 2. *[a or b or c]* a. Ops personnel report CSF status tree **RED PATH** or **ORANGE PATH** terminus exists for core cooling b. Restoration of either AE or DF 4KV emergency bus is NOT likely from any source within 3 hours of loss c. Five hottest core exit thermocouples >1200 F or five hottest core exit thermocouples >719 F with no RCPs running and RVLIS full range <40%
SITE AREA	1 2 3 4	**Loss of offsite and onsite AC power for >15 minutes** 1. AE and DF 4KV emergency buses NOT energized from Unit 1 sources for >15 minutes
ALERT	1 2 3 4	**AC power to emergency buses reduced to a single source of power such that any additional failure will result in the de-energization of both buses** *[1 and 2]* 1. Either AE or DF 4KV emergency bus is de-energized for >15 minutes 2. The energized AE or DF 4KV emergency bus has only one source of power *[a or b]* a. Emergency diesel generator b. 1A or 1D 4KV normal bus
UNUSUAL EVENT	1 2 3 4	**Loss of offsite power for >15 minutes** *[1 and 2]* 1. 1A and 1D 4KV normal buses de-energized for >15 minutes 2. Each diesel generator is supplying power to its respective emergency bus

3.2 Loss of AC (Shutdown)

Mode	Criterion / Indicator
	Refer to Tab 6 "Shutdown System Degradation"
	Refer to Tab 6 "Shutdown System Degradation"
5 6 De-fuel	**UNPLANNED loss of offsite and onsite AC power for >15 minutes** 1. AE and DF 4KV emergency buses NOT energized from Unit 1 sources for >15 minutes *Also Refer to Tab 6 "Shutdown System Degradation"*
5 6 De-fuel	**UNPLANNED loss of offsite power for >15 minutes** *[1 and 2]* 1. 1A and 1D 4KV normal buses de-energized for >15 minutes 2. Either diesel generator is supplying power to its respective emergency bus

3.3 Loss of DC Power

	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 1 "Fission Product Barrier Matrix" and Tab 2.2 "Loss of Function", and Tab 6.1 "Loss of Shutdown Systems"*
SITE AREA	1 2 3 4	**Loss of all vital DC power for >15 minutes** 1 Voltage <110 4 VDC on DC buses 1-1 and 1-2 and 1-3 and 1-4 for >15 minutes *Also Refer to Tab 1 "Fission Product Barrier Matrix", Tab 2.2 "Loss of Function", and Tab 2.1 "Loss of Instrumentation" and Tab 6.1 "Loss of Shutdown Systems"*
ALERT		*Refer to Tab 1 "Fission Product Barrier Matrix", Tab 2.2 "Loss of Function", and Tab 2.1 "Loss of Instrumentation" and Tab 6 1 "Loss of Shutdown Systems"*
UNUSUAL EVENT	1 2 3 4	UNPLANNED loss of one train of DC power for >15 minutes *[1 or 2]* 1. Voltage <110 4 VDC on DC Buses 1-1 and 1-3 for >15 minutes 2. Voltage <110.4 VDC on DC Buses 1-2 and 1-4 for >15 minutes *Refer to Tab 6.4 "Loss of DC (Shutdown)" for modes 5, 6, and defueled*

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

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EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100 Refer to Figure 7-A.

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

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

PROJECTILE: An object ejected, thrown, or launched towards a plant structure. The source of the projectile may be onsite or offsite. Po for damage is sufficient to cause concern regarding the integrity o. the affected structure or the operability or reliability of safety equipment contained therein.

The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge.

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A.

STRIKE ACTION: A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on the BVPS or one of its vendors The STRIKE ACTION must threaten to interrupt normal plant operations to be considered

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

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With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases, unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e.g., alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank).

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VITAL AREA is any area within the PROTECTED AREA which contains equipment, systems, components, or material, the fail destruction, or release of which could directly or indirectly endanger public health and safety by exposure to radiation

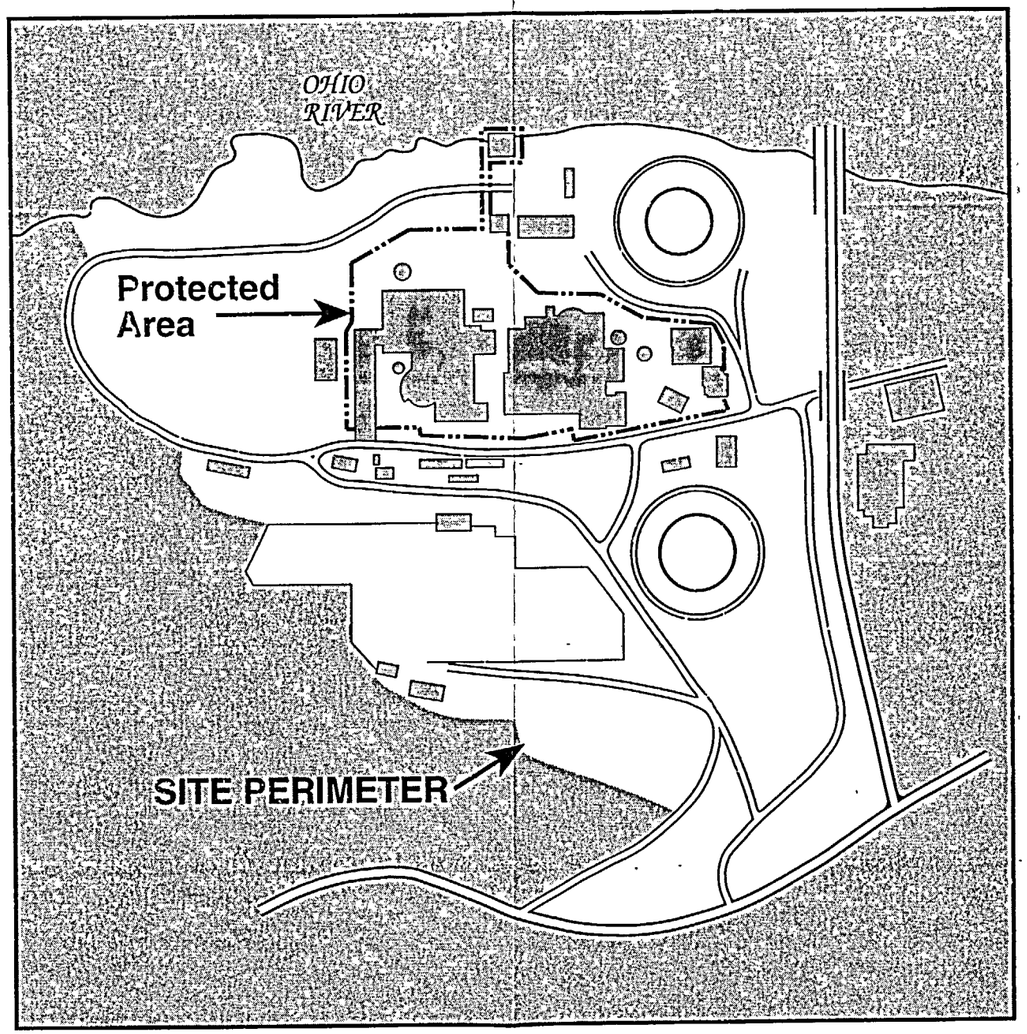
	4.1 Fire	
	Mode	Criterion / Indicator
GENERAL	1 2 3 4	**FIRE in the control room, cable tray mezzanine, <u>or</u> process control room resulting in an evacuation of the control room per 1.56C.4 *"Alternate Safe Shutdown"* <u>and</u> loss of any required equipment results in an uncontrolled RCS Heatup** *[1 and 2 and 3]* 1. 1.56C.4 *"Alternate Safe Shutdown"* entered 2. Ops personnel report inability to operate at least one of each of the following components of the available train: Charging pump AFW pump Diesel generator RPRW pump BIP Steam relief path 3. Uncontrolled RCS heatup lasting longer than 15 minutes
SITE AREA	1 2 3 4	**FIRE in the control room, cable tray mezzanine, <u>or</u> process control room resulting in an evacuation of the control room per 1.56C.4 *"Alternate Safe Shutdown"*** 1. 1.56C.4 *"Alternate Safe Shutdown" entered*
ALERT	All	**FIRE in any of the areas listed in Table 4-1 that is affecting safety related equipment** *[1 and 2]* 1. **FIRE** in any of the listed areas in Table 4-1 2. *[a or b]* a. Ops personnel report **VISIBLE DAMAGE** to permanent structure <u>or</u> equipment in listed area due to **FIRE** b. Control room indication of degraded system <u>or</u> component (within listed areas) response due to **FIRE**
UNUSUAL EVENT	All	**FIRE in <u>or</u> adjacent to those areas listed in Table 4-1 not extinguished within 15 minutes from the time of control room notification <u>or</u> verification of control room alarm**

	4.2 Explosions	
	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 4.1 "Fire" or Tab 1 "Fission Product Barrier Matrix"*
SITE AREA		*Refer to Tab 4.1 "Fire" or Tab 1 "Fission Product Barrier Matrix"*
ALERT	All	**EXPLOSION in any of the areas listed in Table 4-1 that is affecting safety related equipment** *[1 and 2]* 1. **EXPLOSION** in any of the listed areas in Table 4-1 2. *[a or b]* a. Ops personnel report **VISIBLE DAMAGE** to permanent structure <u>or</u> equipment in listed area b. Control room indication of degraded system <u>or</u> component (within listed areas) response due to **EXPLOSION** *Refer to Tab 4.6 "Security"*
UNUSUAL EVENT	All	**UNPLANNED EXPLOSION in <u>or</u> adjacent to those areas listed in Table 4-1** 1. **UNPLANNED EXPLOSION** in <u>or</u> adjacent to any of the listed areas in Table 4-1 *Refer to Tab 4.1 "Fire" or Tab 1 "Fission Product Barrier Matrix"* *Refer to Tab 4.6 "Security"*

TABLE 4-1
PLANT AREAS ASSOCIATED WITH FIRE AND EXPLOSION EALS

Control Room	Diesel Gen. Room	Containment Building
Cable Tray Mezz.	Intake Str Cubicles	Prim. Auxiliary Building
Process Cntrol Rm	U1/U2 CV3 Cable Tunnel	Safeguards Building
Relay Room	AE/DF Switchgear	Demin Water (1WT-TK-10)
Rod Drive/MG Rm	Fuel Building	CO2 Storage/PG Pump Rm
RWST (1QS-TK-1)	RW Valve Pit	D/G Fuel Oil

Figure 4-A
PROTECTED AREA / SITE PERIMETER



DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

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EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A.

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i.e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded.

INEFFECTIVE: The specified restoration action(s) does not result in a reduction in the level of severity of the RED PATH condition within 15 minutes from identification of the Core Cooling CSF Status Tree RED PATH TERMINUS. A reduction in the level of severity is an improvement in the applicable parameters (e.g., increasing trend in reactor vessel water level (RVLIS full range) and/or decreasing trend on core thermocouple temperatures).

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

PROJECTILE: An object ejected, thrown, or launched towards a plant structure. The source of the projectile may be onsite or offsite. Po for damage is sufficient to cause concern regarding the integrity of the affected structure or the operability or reliability of safety equipment contained therein.

The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge.

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following. (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load, (3) Reactor Trip; (4) Safety Injection System Activation

The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A.

STRIKE ACTION: A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on the BVPS or one of its vendors. The STRIKE ACTION must threaten to interrupt normal plant operations to be considered.

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

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.

With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases, unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e.g., alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank).

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 indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment (i e., within 15 minutes).

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 includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

VITAL AREA is any area within the PROTECTED AREA which contains equipment, systems, components, or material, the fail destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation

TABLE 4-2 HAS BEEN DELETED

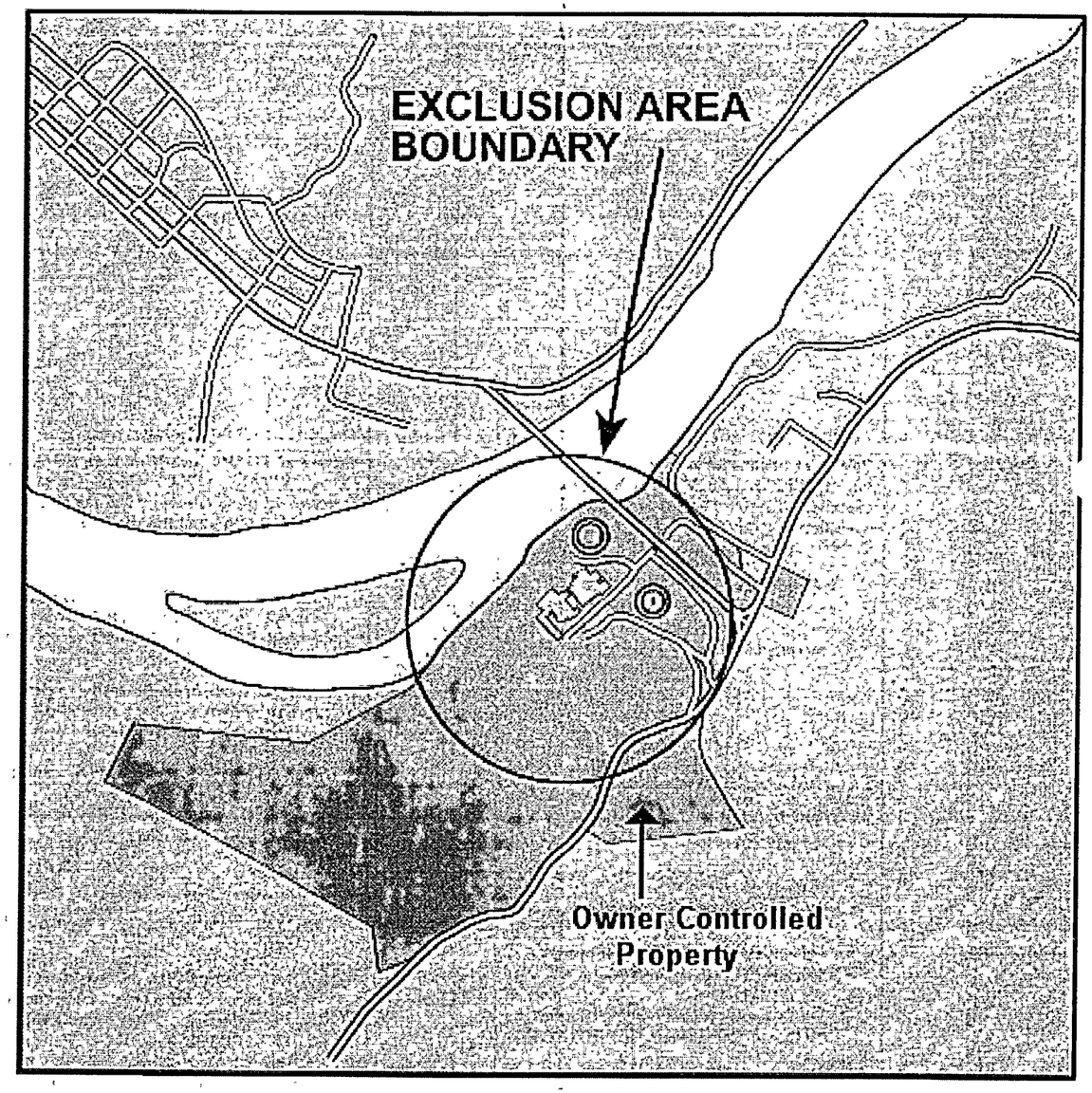
FIGURE 4-B HAS BEEN DELETED

	4.3 Flammable Gas	
	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 4.1 "Fire", Tab 4.2 "Explosion, or Tab 1 "Fission Product Barrier Matrix"*
SITE AREA		*Refer to Tab 4.1 "Fire", Tab 4.2 "Explosion", or Tab 1 "Fission Product Barrier Matrix"*
ALERT	All	**Release of flammable gas within, <u>or</u> contiguous to, a VITAL AREA which jeopardizes operation of systems required to maintain safe operations <u>or</u> to establish or maintain cold shutdown (Mode 5).** 1. Report or detection of a flammable gas within, or contiguous to, a **VITAL AREA** in concentrations greater than explosive concentrations.
UNUSUAL EVENT	All	**Release of flammable gas affecting the PROTECTED AREA deemed detrimental to the safe operation of the plant.** ***(1 or 2)*** ***1. (a and b)*** a. Report or detection of flammable gas that could enter the **SITE PERIMETER** in amounts that can affect normal operation of the plant (Refer to Figure 4-A). b. Normal operation of the plant is impeded due to access restrictions implemented by the Control Room within the **PROTECTED AREA** (Refer to Figure 4-A). **2. Report by local, county or State officials for a potential evacuation of site personnel based on an offsite event.**

	4.4 Toxic Gas	
	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 1 "Fission Product Barrier Matrix"*
SITE AREA		*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT	All	**Release of TOXIC GAS within, <u>or</u> contiguous to, a VITAL AREA which jeopardizes operation of systems required to maintain safe operations <u>or</u> to establish or maintain cold shutdown (Mode 5).** *(1 and 2)* 1. Report or detection of a **TOXIC GAS** within, or contiguous to, a **VITAL AREA** or an area required for continued safe operation in concentrations that will be life threatening to plant personnel. 2. Plant personnel would be unable to perform actions necessary for continued safe operation or to establish and maintain cold shutdown (Mode 5) while utilizing appropriate personnel protection equipment.
UNUSUAL EVENT	All	**Release of TOXIC GAS affecting the PROTECTED AREA deemed detrimental to the safe operation of the plant.** ***(1 or 2)*** 1. ***(a and b)*** a. Report or detection of **TOXIC GAS** that could enter the **SITE PERIMETER** in amounts that can affect normal operation of the plant (Refer to Figure 4-A). b. Normal operation of the plant is impeded due to access restrictions implemented by the Control Room within the **PROTECTED AREA** (Refer to Figure 4-A). 2. Report by local, county or State officials for a potential evacuation of site personnel based on an offsite event. *Refer to AOP 1/2 44A 1 "Chlorine/toxic Gas Release", Attachment 3 for a list of chemicals stored, produced, or transported near BVPS and their toxicity limits.*

Figure 4-C

EXCLUSION AREA BOUNDARY



4.5 Control Room Evacuation

	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 4.1 "FIRE"*
SITE AREA	All	**Evacuation of the control room has been initiated and control of all necessary equipment has not been established within 15 minutes of manning the Shutdown Panel** *[1 and 2]* 1. AOP 1.33.1 *"Control Room Inaccessibility"* has been entered 2. Inability to transfer and operate any single component listed in Table 4-3 within 15 minutes of manning the shutdown panel *Also refer to Tab 4.1 "Fire"*
ALERT	All	**Evacuation of the control room is required** 1. AOP 1.33.1 *"Control Room Inaccessibility"* has been entered
UNUSUAL EVENT		Not Applicable

4.6 Security

	Mode	Criterion / Indicator
GENERAL	All	**Security event resulting in loss of control of the systems necessary to establish or maintain cold shutdown** *[1 or 2]* 1. Hostile armed force has taken control of the control room or the remote shutdown panel 2. Hostile armed force has taken control of plant equipment such that Ops personnel report the inability to operate equipment necessary to maintain the following functions *[a or b or c]* a Subcriticality b. Core cooling c. Heat Sink
SITE AREA	All	**Security event has or is occurring which results in actual or likely failures of plant functions needed to protect the public** *[1 or 2]* 1. **VITAL AREA**, other than the control room, has been penetrated by a hostile armed force 2. Suspected **BOMB** detonates within a **VITAL AREA**
ALERT	All	**Credible Security event which indicates an actual or potential substantial degradation in the level of safety of the plant** *[1 or 2 or 3]* 1. **BOMB** discovered within a **VITAL AREA** 2. **CIVIL DISTURBANCE** ongoing within the **PROTECTED AREA** 3. **PROTECTED AREA** has been penetrated by a hostile armed force *Refer to Figure 4-A for a drawing of the PROTECTED AREA*
UNUSUAL EVENT	All	**Credible Security event which indicates a potential degradation in the level of safety of the plant** *[1 or 2]* 1. **BOMB** discovered within the **PROTECTED AREA** 2. Security Shift Supervisor reports one or more of the events listed in Table 4-4 *Refer to Figure 4-A for a drawing of the PROTECTED AREA*

4.7 Emergency Director Judgement

	Mode	Criterion / Indicator
GENERAL	All	**Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA protective action guidelines exposure levels outside the EXCLUSION AREA BOUNDARY. (Refer to Figure 4-C on preceding page.)**
SITE AREA	All	**Events are in process or have occurred which involve actual or likely major failures of plant functions needed for the protection of the public. Any releases are NOT expected to result in exposure levels which exceed EPA protective action guideline exposure levels outside the EXCLUSION AREA BOUNDARY. (Refer to Figure 4-C on preceding page.)**
ALERT	All	**Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the EPA protective action guideline exposure levels.**
UNUSUAL EVENT	All	**Unusual events are in process or have occurred which indicate a potential degradation of the level of safety of the plant. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.**

Table 4-3
EQUIPMENT REQUIRED AT SHUTDOWN PANEL

One Auxiliary Feedwater Pump
One Atmospheric Steam Dump
One Charging Pump
One Boric Acid Pump
1FCV-CH-122

Table 4-4
SECURITY EVENTS

a. **SABOTAGE/INTRUSION** has or is Occurring Within the **PROTECTED AREA** (Figure 4-A)

b. **HOSTAGE/EXTORTION** Situation That Threatens to Interrupt Plant Operations

c. **CIVIL DISTURBANCE** Ongoing Between the **SITE PERIMETER** and **PROTECTED AREA** (Figure 4-A)

d. Hostile **STRIKE ACTION** Within the **PROTECTED AREA** Which Threatens to Interrupt Normal Plant Operations (Judgement Based on Behavior of Strikers and/or Intelligence Received) (Figure 4-A)

e. A credible site-specific security threat notification.

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition (*i.e., the basis of the declaration*). All classifications are based on an assessment (*i.e., determination that the condition is VALID*) by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

CRITICAL SAFETY FUNCTION (CSFs): A plant safety function required to prevent significant release of core radioactivity to the environment. There are six CSFs: Subcriticality, Core Cooling, Heat Sink, Vessel Integrity *(Pressurized Thermal Shock)*, Integrity *(Containment)* and Inventory *(RCS)*.

EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A.

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded.

INEFFECTIVE: The specified restoration action(s) does not result in a reduction in the level of severity of the RED PATH condition within 15 minutes from identification of the Core Cooling CSF Status Tree RED PATH TERMINUS. A reduction in the level of severity is an improvement in the applicable parameters (e.g., increasing trend in reactor vessel water level (RVLIS full range) and/or decreasing trend on core thermocouple temperatures).

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

PROJECTILE: An object ejected, thrown, or launched towards a plant structure. The source of the projectile may be onsite or offsite. Po[illegible] for damage is sufficient to cause concern regarding the integrity of the affected structure or the operability or reliability of safety equipment contained therein.

The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A.

STRIKE ACTION: A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on the BVPS or one of its vendors. The STRIKE ACTION must threaten to interrupt normal plant operations to be considered.

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

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

With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases, unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e.g., alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank).

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 indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment (i.e., within 15 minutes).

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 includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

VITAL AREA is any area within the PROTECTED AREA which contains equipment, systems, components, or material, the fai[illegible] destruction, or release of which could directly or indirectly endanger [illegible] public health and safety by exposure to radiation

DESTRUCTIVE PHENOMENA - U1

5.1, 5.2, FIGURE 5-A, TABLE 5-1

	5.1 Earthquake	
	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 1 "Fission Product Barrier Matrix"*
SITE AREA		*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT	All	**Earthquake greater than 0.06g acceleration occurs** 1. Analysis of Accelerograph Recording System data indicate ground acceleration >0 06g in accordance with AOP 1/2.75.3 *"Acts of Nature – Earthquake"*
UNUSUAL EVENT	All	**Earthquake detected by site seismic instrumentation, >0.01g acceleration** *[1 and 2]* 1. Ann. A11-59 "Seismic Accelerograph Operation" indicates initiation of the Accelerograph Recording System 2. *[a or b]* a. Ground motion sensed by plant personnel b. Unit 2 reports seismic event detected on unit instrumentation

	5.2 Tornado	
	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 1 "Fission Product Barrier Matrix"*
SITE AREA		*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT	All	**Tornado <u>or</u> high wind strikes any structure listed in Table 5-1 and results in structural damage** *[1 and 2]* 1. Tornado <u>or</u> high wind strikes any structure listed in Table 5-1 2. *[a or b]* a. Confirmed report of any **VISIBLE DAMAGE** to specified structures b. Control room indications of degraded safety system <u>or</u> component response within listed structures due to event
UNUSUAL EVENT	All	**Tornado within the SITE PERIMETER** 1. Plant personnel report a tornado has been sighted within the **SITE PERIMETER** (refer to Figure 5-A)

Figure 5-A
Site Perimeter

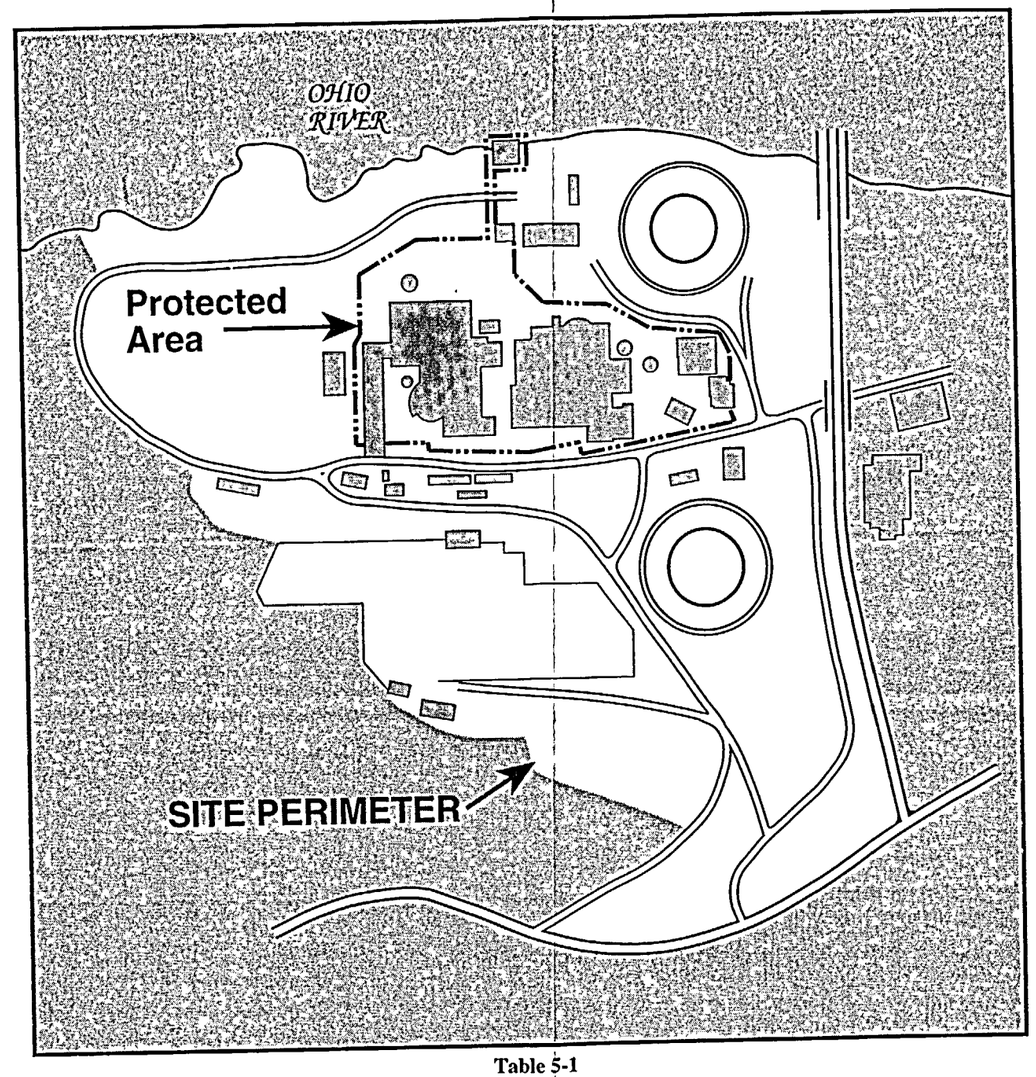


Table 5-1

Plant Structures Associated With Tornado/Hi Wind and Aircraft EALs

Containment Building
Safeguards Building
Primary Aux Building
Fuel Handling Building
RWST (1QS-TK-1)
CO2 Storage/PG Pp Rm
Service Building (incl. FW Reg Vlv Rm)
Diesel Generator Building
Main Intake Structure
Demin. Water Sto. (1WT-TK-10)

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition (*i e., the basis of the declaration*). All classifications are based on an assessment (*i.e., determination that the condition is VALID*) by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

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EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A.

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded.

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

PROJECTILE: An object ejected, thrown, or launched towards a [illegible]nt structure. The source of the projectile may be onsite or offsite. Po[illegible] for damage is sufficient to cause concern regarding the integrity o[illegible] the affected structure or the operability or reliability of safety equipment contained therein.

The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge.

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A.

STRIKE ACTION: A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on the BVPS or one of its vendors. The STRIKE ACTION must threaten to interrupt normal plant operations to be considered

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

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With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases, unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e.g., alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank).

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VITAL AREA is any area within the PROTECTED AREA which contains equipment, systems, components, or material, the fail[illegible] destruction, or release of which could directly or indirectly endanger [illegible] public health and safety by exposure to radiation

DESTRUCTIVE PHENOMENA - U1

GENERAL

SITE AREA

UNUSUAL EVENT

ALERT

5.3 Aircraft/Projectile Crash

Mode	Criterion / Indicator
	Refer to Tab 1 "Fission Product Barrier Matrix"
	Refer to Tab 1 "Fission Product Barrier Matrix"
ALL	**Aircraft or PROJECTILE impacts (strikes) any plant structure listed in Table 5-1 resulting in structural damage** *[1 and 2]* 1. Plant personnel report aircraft <u>or</u> **PROJECTILE** has impacted any structure listed in Table 5-1 on previous page 2. *[a or b]* a. Confirmed report of any **VISIBLE DAMAGE** to specified structures b. Control Room indications of degraded safety system <u>or</u> component response (within listed structures) due to event
ALL	**Aircraft crash or PROJECTILE impact within the SITE PERIMETER** 1. Plant personnel report aircraft crash <u>or</u> **PROJECTILE** impact within the **SITE PERIMETER** (refer to Figure 5-A on previous page)

5.4 River Level HIGH

Mode	Criterion / Indicator
	Refer to Tab 1 "Fission Product Barrier Matrix"
	Refer to Tab 1 "Fission Product Barrier Matrix"
ALL	**River water level > 705 Ft mean sea level** *[1 or 2]* 1. 1LR-CW-101, <u>if</u> accessible, indicates >705 mean sea level 2. National Weather Bureau (412-644-2882) <u>or</u> Montgomery Lock (724-643-8400) reports Montgomery Lower Pool stage height >52.48 Ft *Note: Mean Sea Level = stage height + 652.52 Ft*
ALL	**River water level >700 Ft Mean Sea Level** *[1 or 2]* 1. 1LR-CW-101 indicates > 700 Ft Mean Sea Level 2. National Weather Bureau (412-644-2882) <u>or</u> Montgomery Lock (724-643-8400) reports Montgomery Lower Pool stage height >47.48 Ft *Note: Mean Sea Level = stage height + 652.52 Ft*

5.5 River Level LOW

Mode	Criterion / Indicator
	Refer to Tab 1 "Fission Product Barrier Matrix"
	Refer to Tab 1 "Fission Product Barrier Matrix"
ALL	**River water level <648.6 Ft Mean Sea Level** *[1 or 2]* 1. 1LR-CW-101 indicates < 648.6 Ft Mean Sea Level 2. National Weather Bureau (412-644-2882) or Montgomery Lock (724-643-8400) Reports Montgomery Lower Pool stage height <-3.92 Ft Note: Mean Sea Level = stage height + 652.52 Ft
	Not Applicable

5.6 Watercraft Crash

Mode	Criterion / Indicator
	Refer to Tab 1 "Fission Product Barrier Matrix"
	Refer to Tab 1 "Fission Product Barrier Matrix"
	Refer to Tab 1 "Fission Product Barrier Matrix"
ALL	**Watercraft strikes primary intake structure and results in a reduction of Reactor Plant or Turbine Plant River Water Flow** *[1 and 2]* 1. Plant personnel report a watercraft has struck the primary intake structure 2. *[a or b]* a. RPRW flow reduction indicated by sustained pressure reduction to <20 psig on 1PI-RW-113A and/or 113B b. TPRW flow reduction indicated by sustained pressure reduction (Ann A6-118 "RAW Water Pump Disch Press Low" <15 psig)

5.3. 5.4. 5.5. 5.6

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition (*i e., the basis of the declaration*). All classifications are based on an assessment (*i e., determination that the condition is VALID*) by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

CRITICAL SAFETY FUNCTION (CSFs): A plant safety function required to prevent significant release of core radioactivity to the environment. There are six CSFs: Subcriticality, Core Cooling, Heat Sink, Vessel Integrity *(Pressurized Thermal Shock)*, Integrity *(Containment)* and Inventory *(RCS)*.

EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A.

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded.

INEFFECTIVE: The specified restoration action(s) does not result in a reduction in the level of severity of the RED PATH condition within 15 minutes from identification of the Core Cooling CSF Status Tree RED PATH TERMINUS. A reduction in the level of severity is an improvement in the applicable parameters (e.g., increasing trend in reactor vessel water level (RVLIS full range) and/or decreasing trend on core thermocouple temperatures).

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

PROJECTILE: An object ejected, thrown, or launched towards a plant structure. The source of the projectile may be onsite or offsite. Potential for damage is sufficient to cause concern regarding the integrity of the affected structure or the operability or reliability of safety equipment contained therein.

The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge.

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A.

STRIKE ACTION: A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on the BVPS or one of its vendors. The STRIKE ACTION must threaten to interrupt normal plant operations to be considered.

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

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.

With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases, unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e.g., alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank).

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 indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment (i.e., within 15 minutes).

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 includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering Surface blemishes (e.g , paint chipping, scratches) should not be included.

VITAL AREA is 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

GENERAL

SITE AREA

ALERT

UNUSUAL EVENT

6.1 Loss of Shutdown Systems

Mode	Criterion / Indicator
	Refer to Tab 7.1 "Gaseous Effluents"
	Refer to Tab 7.1 "Gaseous Effluents"
5 6	**Inability to maintain unit in cold shutdown** *[1 and 2]* 1. **UNPLANNED** Loss of RHR <u>or</u> CCR <u>or</u> RPRW 2. *[a or b or c]* a. Core exit thermocouples (CETC) (if available) indicate the temperature has increased >10 F <u>and</u> has exceeded 200F. b. (w/ RHR in service) RHR inlet temperature has increased >10 F <u>and</u> has exceeded 200 F. c. (w/o CETCs or RHR), loss has exceeded 30 minutes or there is evidence of boiling in the Rx vessel.
5 6	**UNPLANNED loss of any function needed for cold shutdown that results in a core exit temperature increase of more than 10 F** *[1 and 2]* 1. **UNPLANNED** Loss of RHR <u>or</u> CCR <u>or</u> RPRW 2. *[a or b or c]* a. Core exit thermocouples (CETC) (if available) indicate the temperature has increased >10F b. (W/ RHR in service) RHR inlet temperature has increased >10 F c. (w/o CETCs or RHR), loss has exceeded 15 minutes

6.2 RCS Inventory - Shutdown

Mode	Criterion / Indicator
	Refer to Tab 7.1 "Gaseous Effluents"
5 6	**Loss of water level in the reactor vessel that has <u>or</u> will uncover fuel in the reactor vessel.** *[1 and 2]* 1 *[a or b]* a. Loss of RHR <u>or</u> CCR <u>or</u> RPRW b. Loss of RCS Inventory with inadequate makeup 2. *[a and b]* a Ops personnel report LI-1RC-480, or LI-1RC-482C RCS level instrumentation (if available) in the Control Room indicates a level drop to 0 inches b. Other confirmed indications of fuel uncovery
	Not Applicable
5 6	**Loss of Reactor Coolant System Inventory with inadequate make-up** *[1 and 2]* 1. Ops personnel report LI-1RC-480, or LI-1RC-482C RCS level instrumentation in the Control Room indicates a level drop to less than 14 5 inches 2. Ops personnel report inability to make-up RCS inventory

6.3 Loss of AC (Shutdown)

Mode	Criterion / Indicator
	Refer to Tab 7.1 "Gaseous Effluents"
	Refer to Tab 7.1 "Gaseous Effluents"
5 6 De-Fuel	**UNPLANNED loss of offsite <u>and</u> onsite AC power for >15 minutes]** 1. AE <u>and</u> DF 4KV emergency buses not energized from Unit 1 sources for >15 minutes *Also refer to Tab 6.1 "Loss of Shutdown Systems"*
5 6 De-Fuel	**UNPLANNED loss of all offsite power for >15 minutes** *[1 and 2]* 1. 1A <u>and</u> 1D 4KV normal buses de-energized for >15 minutes 2. Either diesel generator is supplying power to its respective emergency bus

6.4 Loss of DC (Shutdown)

Mode	Criterion / Indicator
	Refer to Tab 7.1 "Gaseous Effluents"
	Refer to Tab 7.1 "Gaseous Effluents""
	Refer to Tab 6.1 "Loss of Shutdown Systems"
5 6 De-Fuel	**UNPLANNED loss of the required train of DC power for >15 minutes** *[1 or 2]* *1.* Voltage <110.4 VDC on DC buses 1-1 <u>and</u> 1-3 for >15 minutes if train A is the priority train 2. Voltage <110.4 VDC on DC buses 1-2 <u>and</u> 1-4 for >15 minutes if train B is the priority train

GENERAL

SITE AREA

ALERT

UNUSUAL EVENT

SHUTDOWN SYSTEMS DEGRADATION - U1

6.1, 6.2, 6.3, 6.4

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

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EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A.

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EXTORTION: An attempt to cause an action at the station by threat of force

FAULTED: (Steam Generator) Existence of secondary side leakage (i e , steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

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PROJECTILE: An object ejected, thrown, or launched towards a plant structure. The source of the projectile may be onsite or offsite. F[illegible]al for damage is sufficient to cause concern regarding the integrity of the affected structure or the operability or reliability of safety equipment contained therein

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SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load, (3) Reactor Trip, (4) Safety Injection System Activation

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	6.5 Fuel Handling		6.6 Inadvertent Criticality	
	Mode	Criterion / Indicator	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 7.1 Gaseous Effluents"*		*Refer to Tab 7.1 Gaseous Effluents"*
SITE AREA		*Refer to Tab 7.1 Gaseous Effluents"*		*Refer to Tab 7.1 Gaseous Effluents"*
ALERT	ALL	**Major damage to irradiated fuel; or loss of water level that has or will uncover irradiated fuel outside the reactor vessel** *[1 and 2]* 1. **VALID** Hi-Hi alarm on RM-RM-203 or RM-RM-207 or RM-VS-103 A/B or RM-VS-104 A/B 2. *[a or b]* a. Plant personnel report damage of irradiated fuel sufficient to rupture fuel rods b. Plant personnel report water level drop has or will exceed available makeup capacity such that irradiated fuel will be uncovered *Refer to Tab 6 2 for In-vessel Uncovery*	3 4 5 6	**Inadvertent reactor criticality** 1. Nuclear instrumentation indicate unanticipated sustained positive startup rate
UNUSUAL EVENT	ALL	**UNPLANNED loss of water level in spent fuel pool or reactor cavity or transfer canal with fuel remaining covered** *[1 and 2 and 3]* 1. Plant personnel report water level drop in spent fuel pool or reactor cavity, or transfer canal 2. **VALID** Hi-Hi alarm on RM-RM-203 or RM-RM-207 3. Fuel remains covered with water		*Not Applicable*

INTENTIONALLY BLANK

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

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EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100 Refer to Figure 7-A.

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EXTORTION: An attempt to cause an action at the station by threat of force

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The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A.

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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 includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

VITAL AREA is 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

	7.1 Gaseous Effluents		7.2 Liquid Effluents	
	Mode	Criterion / Indicator	Mode	Criterion / Indicator
GENERAL	All	**EAB dose resulting from an actual <u>or</u> imminent Release of gaseous radioactivity that exceeds 1000 mR TEDE <u>or</u> 5000 mR child thyroid CDE for the actual <u>or</u> projected duration of the release** *[1 or 2 or 3]* 1. A **VALID** gas effluent rad monitor reading exceeds the values in Column 4 of Table 7-1 for >15 minutes, unless dose projections within this time period confirms that the **CRITERION** is <u>NOT</u> exceeded 2. Field survey results indicate EAB dose >1000 mR β-γ for the actual or projected duration of the release 3. EPP dose projection results indicate EAB dose >1000 mR TEDE or >5000 mR child thyroid CDE for the actual or projected duration of the release		*Not Applicable*
SITE AREA	All	**EAB dose resulting from an actual <u>or</u> imminent release of gaseous radioactivity that exceeds 100 mR TEDE <u>or</u> 500 mR child thyroid CDE for the actual <u>or</u> projected duration of the release** *[1 or 2 or 3]* 1. A **VALID** gas effluent rad monitor reading exceeds the values in Column 3 of Table 7-1 for >15 minutes, unless dose projections within this time period confirms that the **CRITERION** is <u>NOT</u> exceeded 2. Field survey results indicate EAB dose >100 mR β-γ for the actual or projected duration of the release 3. EPP dose projection results indicate EAB dose >100 mR TEDE or >500 mR child thyroid CDE for the actual or projected duration of the release		*Not Applicable*
ALERT	All	**Any UNPLANNED release of gaseous radioactivity that exceeds 200 times Technical Specification 6.8.6a/Offsite Dose Calculation Manual Limit for 15 minutes** *[1 or 2 or 3]* 1. A **VALID** gas effluent rad monitor reading exceeds the values in Column 2 of Table 7-1 for >15 minutes, unless dose projections within this time period confirms that the **CRITERION** is <u>NOT</u> exceeded 2. Field survey results indicate >10 mR/hr β-γ at the EAB for >15 minutes 3. EPP dose projection results indicate EAB dose >10 mR TEDE for the duration of the release	All	**Any UNPLANNED release of liquid radioactivity that exceeds 200 times Technical Specifications 6.8.6a/Offsite Dose Calculation Manual Limit for 15 minutes** *[1 or 2]* 1. A **VALID** liquid effluent rad monitor reading exceeds the values in Column 2 of Table 7-1 for >15 minutes, unless dose projections within this time period confirms that the **CRITERION** is <u>NOT</u> exceeded 2. Sample results exceed 200 times the Technical Specification 6 8 6a/Offsite Dose Calculation Manual Limit for an unmonitored release of liquid radioactivity >15 minutes in duration
UNUSUAL EVENT	All	**Any UNPLANNED release of gaseous radioactivity that exceeds 2 times Technical Specification 6.8.6a/Offsite Dose Calculation Manual Limit for 60 minutes** *[1 or 2 or 3]* 1. A **VALID** gas effluent rad monitor reading exceeds the values in Column 1 of Table 7-1 for >60 minutes, unless dose projections within this time period confirms that the **CRITERION** is <u>NOT</u> exceeded 2. Field survey results indicate >0 1 mR/hr β-γ at the EAB for >60 minutes 3. EPP dose projection results indicate EAB dose >0 1 mR TEDE for the duration of the release	All	**Any UNPLANNED release of liquid radioactivity to the environment that exceeds 2 times Technical Specification 6.8.6a/Offsite Dose Calculation Manual Limit for 60 minutes** *[1 or 2]* 1. A **VALID** liquid effluent rad monitor reading exceeds the values in Column 1 of Table 7-1 for >60 minutes, unless dose projections within this time period confirms that the **CRITERION** is <u>NOT</u> exceeded 2. Sample results exceed 2 times Technical Specification 6 8 6a/Offsite Dose Calculation Manual Limit for an unmonitored release of liquid radioactivity >60 minutes in duration

TABLE 7-1
EFFLUENT RADIAITON MONITOR EAL'S

NOTE: The values below, if exceeded, indicate the need to perform the specified dose projection/assessment, as listed at the bottom of each column. If the assessment can not be completed within 15 minutes (60 minutes per UE), the declaration shall be made based on the VALID reading.

* *NOTE: These monitors have the ability to divert or terminate effluent flow. Ensure that a release is in progress prior to using the EAL'*

	Column 1 UE		Column 2 Alert		Column 3 Site		Column 4 General	
If a RWDA (Batch Release) is Applicable	**2x the ODCM Limit**		**200x the ODCM Limit**					
* RM-1LW-104	7.06E+5	cpm	n/a	cpm	n/a	cpm	n/a	cpm
* RM-1LW-116	n/a	cpm	n/a	cpm	n/a	cpm	n/a	cpm
RM-1VS-101B (RBC Purge)	2.40E+03	cpm	2.40E+05	cpm	n/a	cpm	n/a	cpm
RM-1VS-109 Channel 5 (RBC Purge)	2.86E+03	cpm	2.86E+05	cpm	n/a	cpm	n/a	cpm
RM-1VS-110 Channel 5 (RBC Purge)	1.33E+04	cpm	n/a	cpm	n/a	cpm	n/a	cpm
* RM-1GW-108B (GWDT)	7.86E+05	cpm	n/a	cpm	n/a	cpm	n/a	cpm
RM-1GW-109 Channel 5 (GWDT)	n/a	cpm	n/a	cpm	n/a	cpm	n/a	cpm
For All Other Unplanned Releases	**2x the ODCM Limit**		**200x the ODCM Limit**					
Auxiliary Building Ventilation System (also called Ventilation Vent)								
RM-1VS-101B	6.00E+03	cpm	6 00E+05	cpm	n/a	cpm	n/a	cpm
RM-1VS-109 Channel 5	2.94E+03	cpm	2.94E+05	cpm	6 01E+05	cpm	n/a	cpm
RM-1VS-109 Channel 7	n/a	cpm	n/a	cpm	6 69E+01	cpm	6 69E+02	cpm
RM-1VS-109 Channel 9	n/a	cpm	n/a	cpm	n/a	cpm	1.32E+01	cpm
RM-1VS-111 HR (SA-9)	n/a	cpm	n/a	cpm	n/a	cpm	n/a	cpm
RM-1VS-111 LR (SA-10)	n/a	cpm	n/a	cpm	7.32E+03	cpm	7.32E+04	cpm
		cpm						
Reactor Building/SLCRS Vent System (also called Elevated Release)								
RM-1VS-107B	1.29E+04	cpm	n/a	cpm	n/a	cpm	n/a	cpm
RM-1VS-110 Channel 5	6.76E+03	cpm	6.76E+05	cpm	9.08E+05	cpm	n/a	cpm
RM-1VS-110 Channel 7	n/a	cpm	n/a	cpm	7.98E+01	cpm	7.98E+02	cpm
RM-1VS-110 Channel 9	n/a	cpm	n/a	cpm	n/a	cpm	2.28E+02	cpm
RM-1VS-112 HR (SA-9)	n/a	cpm	n/a	cpm	n/a	cpm	1.53E+01	cpm
RM-1VS-112 LR (SA-10)	n/a	cpm	n/a	cpm	1.19E+04	cpm	1.19E+05	cpm
Gaseous Waste/Process Vent System								
* RM-1GW-108B	n/a	cpm	n/a	cpm	n/a	cpm	n/a	cpm
RM-1GW-109 Channel 5	n/a	cpm	n/a	cpm	n/a	cpm	n/a	cpm
RM-1GW-109 Channel 7	4.80E+03	cpm	4 80E+05	cpm	7.90E+05	cpm	n/a	cpm
RM-1GW-109 Channel 9	n/a	cpm	n/a	cpm	1.83E+04	cpm	1.83E+05	cpm
RM-1GW-110 HR (SA-9)	n/a	cpm	n/a	cpm	1.59E+04	cpm	1.59E+05	cpm
RM-1GW-110 LR (SA-10)	n/a	cpm	n/a	cpm	n/a	cpm	n/a	cpm
Main Steam Reliefs								
RM-1MS-101	n/a	cpm	n/a	cpm	n/a	cpm	8.00E+01	cpm
Liquid Effluent Pathways								
* RM-1LW-104	7.06E+5	cpm	n/a	cpm	n/a	cpm	n/a	cpm
* RM-1LW-116	n/a	cpm	n/a	cpm	n/a	cpm	n/a	cpm
RM-1RW-100	5.14E+04	cpm	n/a	cpm	n/a	cpm	n/a	cpm
* RM-1DA-100	2.44E+04	cpm	n/a	cpm	n/a	cpm	n/a	cpm

Minimum Release Duration	60 minutes	15 minutes	15 minutes	15 minutes
Assessment Method for Gaseous Release	1/2-HPP-03.06 012 1/2-HPP-03.06 013	1/2-HPP-03.06.012 1/2-HPP-03.06.013 EPP/IP-2.6.x	EPP/IP-2 6.x	EPP/IP-2.6.x
Assessment Method for Liquid Release	EPP/IP-2.7 EPP/IP-2.7.1	EPP/IP-2.7 EPP/IP-2.7.1		

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition (*i e, the basis of the declaration*). All classifications are based on an assessment (*i.e., determination that the condition is VALID*) by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

CRITICAL SAFETY FUNCTION (CSFs): A plant safety function required to prevent significant release of core radioactivity to the environment. There are six CSFs: Subcriticality, Core Cooling, Heat Sink, Vessel Integrity *(Pressurized Thermal Shock)*, Integrity *(Containment)* and Inventory *(RCS)*.

EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i.e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded

INEFFECTIVE: The specified restoration action(s) does not result in a reduction in the level of severity of the RED PATH condition within 15 minutes from identification of the Core Cooling CSF Status Tree RED PATH TERMINUS. A reduction in the level of severity is an improvement in the applicable parameters (e.g, increasing trend in reactor vessel water level (RVLIS full range) and/or decreasing trend on core thermocouple temperatures).

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

PROJECTILE: An object ejected, thrown, or launched towards a plant structure. The source of the projectile may be onsite or offsite. Potential for damage is sufficient to cause concern regarding the integrity of the affected structure or the operability or reliability of safety equipment contained therein.

The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge.

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A.

STRIKE ACTION: A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on the BVPS or one of its vendors The STRIKE ACTION must threaten to interrupt normal plant operations to be considered

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

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

With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases, unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e.g, alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank)

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 indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment (i.e., within 15 minutes).

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 includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

VITAL AREA is 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

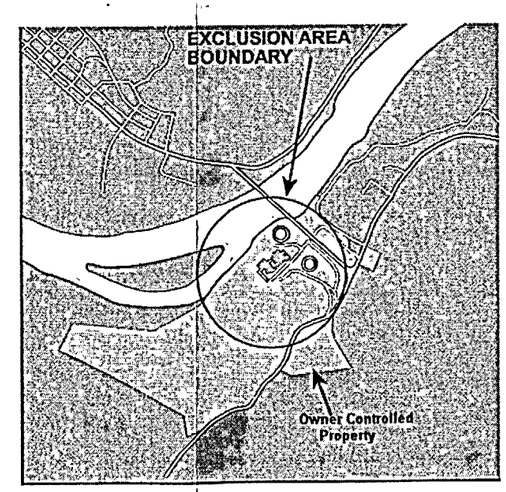
	7.3 Radiation Levels	
	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 1 "Fission Product Barrier Matrix" or Tab 7.1 "Gaseous Effluents"*
SITE AREA		*Refer to Tab 1 "Fission Product Barrier Matrix" or Tab 7.1 "Gaseous Effluents"*
ALERT	All	**UNPLANNED increases in radiation levels within the facility that impedes safe operations or establishment or maintenance of cold shutdown** *[1 or 2]* 1. **VALID** area radiation monitor readings or survey results exceed 15 mR/hr in the Control Room or PAF (on U2 DRMS) for >15 minutes 2. *[a and b]* a. **VALID** area radiation monitor readings or survey results exceed values listed in Table 7-2 b. Access restrictions impede operation of systems necessary for safe operation or the ability to establish or maintain cold shutdown *See Note Below*
UNUSUAL EVENT	All	**UNPLANNED increase in radiation levels within the facility** 1. **VALID** area radiation monitor readings increase by a factor of 1000 over normal levels for >15 minutes *Note: In either the UE or ALERT EAL, the ED must determine the cause of increase in radiation levels and review other CRITERIA/INDICATORS for applicability (e g , a dose rate of 15 mR/hr in the Control Room could be caused by a release associated with a more significant event)*

	7.4 Fuel Handling	
	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 7.1 "Gaseous Effluents"*
SITE AREA		*Refer to Tab 7 1 "Gaseous Effluents"*
ALERT	All	**Major damage to irradiated fuel; or loss of water level that has or will uncover irradiated fuel outside the reactor vessel** *[1 and 2]* 1. **VALID** Hi-Hi alarm on RM-RM-203 or RM-RM-207 or RM-VS-103 A/B or RM-VS-104 A/B 2. *[a or b]* a. Plant personnel report damage of irradiated fuel sufficient to rupture fuel rods b. Plant personnel report water level drop has or will exceed available makeup capacity such that irradiated fuel will be uncovered *Refer to Tab 6 "Shutdown Systems" for In-vessel Uncovery*
UNUSUAL EVENT	ALL	**UNPLANNED loss of water level in spent fuel pool or reactor cavity or transfer canal with fuel remaining covered** *[1 and 2 and 3]* 1. Plant personnel report water level drop in spent fuel pool or reactor cavity, or transfer canal 2. **VALID** Hi-Hi alarm on RM-RM-203 or RM-RM-207 or 3. Fuel remains covered with water

Table 7-2
Areas Associated With EAL 7.3

LOCATION	INDICATOR	READING
Chem Sample Panel (735' PAB)	RM-RM-212	>100 mR/hr general area
PASS Sample Pnl (735' PAB)	Survey Results	>100 mR/hr general area
Manual Valve Chg. Pump Discharge (722' PAB)	Survey Results	>100 mR/hr general area
Safeguards 752' Valves 1HY-110, 1HY-111, 1HY-196, 1HY-197	Survey Results	>100 mR/hr general area
767' PAB SA9/SA10 Gas Monitors	Survey Results	>100 mR/hr general area
752' PAB SPING Monitor	RM-RM-210	>100 mR/hr general area
752' Safeguards Valves 1RS-157, 1RS-159	Survey Results	>100 mR/hr general area
735' West Cable Vault Valves, 1IA-90, 1HY-101, 1HY-102, 1HY-103, 1HY-104	Survey Results	>100 mR/hr general area
735' Safeguards (1QSS, AFW)	Survey Results	>100 mR/hr general area
Main Steam Valve Room (752' Safeguards)	Survey Results	>100 mR/hr general area
A Penetrations (722' Safeguards)	Survey Results	>5 R/hr general area
East Cable Vault (735' Safeguards)	Survey Results	>100 mR/hr general area
Normal 4kV Switchgear	Survey Results	>100 mR/hr general area
Process Instrm. Room	Survey Results	>100 mR/hr general area
AE/DF Switchgear	Survey Results	>100 mR/hr general area
EDG 1-1, 1-2	Survey Results	>100 mR/hr general area

Figure 7-A
EXCLUSION AREA BOUNDARY



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RECOGNITION AND CLASSIFICATION OF EMERGENCY CONDITIONS

CONTROLLED
BVPS UNIT 2

EFFECTIVE INDEX

Issue 8 Rev.	0	OSC Approved	3-12-87
	1	OSC Approved	8-13-87
	2	OSC Approved	10-8-87
	3	OSC Approved	2-9-88
	4	OSC Approved	2-9-89
	5	Non-Safety Related	3-15-89
	6	OSC Approved	4-18-89
	7	OSC Approved	4-12-90
Issue 9 Rev.	0	Non-Intent Revision	10-9-90
	1	OSC Approved	4-4-91
	2	Non-Intent Revision	12-29-92
	3	OSC Approved	1-27-93
Rev.	5	OSC Approved	12-9-93
	6	OSC Approved	10-7-94
	7	OSC Approved	7-22-98
	8	Non-Intent Revision	12-31-99
Rev.	0	OSC Approved	4-17-01
Rev.	1	Non-Intent Revision	12-12-01
Rev.	2	Simple Change	8-28-02
Rev.	3	Simple Change	11-8-02

TABLE OF CONTENTS

A. Purpose

B. References

C. Responsibilities

D. Action Levels/Precautions

E. Procedure

F. Final Condition

G. Attachments

A. PURPOSE

1.0 This procedure describes the immediate actions to be taken to recognize and classify an emergency condition.

2.0 This procedure identifies the four emergency classifications and emergency action levels.

3.0 Reporting requirements for non-emergency abnormal events are provided.

B. REFERENCES

1.0 Beaver Valley Power Station Emergency Preparedness Plan and Implementing Procedures.

2.0 Title 10, Code of Federal Regulations Part 50, Appendix E.

3.0 NUREG-0654/FEMA-REP-1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

4.0 Beaver Valley Power Station Operating Manual

5.0 NUMARC/NESP-007, Methodology for Development of Emergency Action Levels

6.0 ERS-SFL-91-041-REV 1 (U1/U2 Containment Monitor Readings due to LOCA's with various Source Terms).

7.0 Condition Report #992522

8.0 Condition Report #991327-1

9.0 Unit 1 Technical Specification Amendment 204 and Unit 2 Technical Specification Amendment 101.

10.0 EPPOS #2 "Emergency Preparedness Position (EPPOS) on Timeliness of Classification of Emergency Conditions".

11.0 NEI 99-02 "Regulatory Assessment Performance Indicator Guideline"

12.0 Condition Report #00-3939

13.0 Condition Report #99-1234

14.0 Condition Report #02-02125-02

15.0 Calculation Package No. ERS-ATL-93-021

16.0 Calculation Package No. ERS-HHM-87-014

17.0 Calculation Package No. ERS-SFL-86-005

18.0 Calculation Package No. ERS-SFL-99-014

C. RESPONSIBILITY

The Emergency Director (Shift Manager, until properly relieved by a designated alternate) has the responsibility and authority for the performance of the actions prescribed in this procedure.

D. ACTION LEVELS/PRECAUTIONS/GUIDANCE

1.0 ACTION LEVELS

1.1 An off-normal event has occurred.

1.2 An action step in a plant operating or emergency operating procedure refers to this procedure for classification of the indicated plant condition.

2.0 PRECAUTIONS

2.1 The Emergency Director must review all applicable EALs to ensure that the event is properly classified since a given INDICATOR may be associated with more than one CRITERION. A particular INDICATOR omitted from the fission product barrier matrix may be addressed as an event-based EAL in one of the other tabs. Event-based EALs may escalate to the fission product barrier matrix. The Emergency Director may need to consider related events (*e.g., fire and explosion*) or the possible consequences of the event (*e.g., fire in an MCC resulting in loss of AC*) in classifying an event.

2.2 Continued surveillance and assessment of plant conditions are necessary to ensure that the emergency classification is appropriately revised as conditions change, or as more definitive information is obtained.

2.3 If there is any doubt with regard to assessment of a particular EAL, the EAL Basis Document (*i.e., Chapter 4 of the EPP*) entry for that EAL can be reviewed. Classifications shall be consistent with the fundamental definitions of the four emergency classifications (tabulated in Tab 4.7).

2.4 The Emergency Director shall take whatever mitigative or restoration actions are necessary to protect public health and safety. The Emergency Director shall not reject courses of action solely on the basis that the action would result in escalation of the emergency classification.

3.0 GUIDANCE

3.1 Structure of the EALs

3.1.1 There are two types of Emergency Action Levels included in this procedure:

3.1.1.1 Barrier-Based EALs: These EALs address conditions that represent potential losses, or losses, of one or more of the Fuel Clad, RCS, or Containment fission product barriers. INDICATORs of these conditions include CRITICAL SAFETY FUNCTION status, fundamental indications such as subcooling or reactor vessel water level, or auxiliary indications such as containment radiation monitor readings. Classifications are based on the number of barriers lost or potentially lost.

3.1.1.2 Event-Based EALs: These EALs address discrete conditions or events that are generally precursors to fission product barrier degradation, or are otherwise degradations in the level of safety of the plant. Events may be external (*e.g., severe weather, earthquakes, loss of offsite power*) internal (*e.g., fires, explosions, instrumentation failure*) or may involve radioactivity releases.

3.1.2 The EALs are grouped by recognition category as follows:

Tab 1	Fission Product Barrier Matrix
Tab 2	System Degradation
Tab 3	Loss of Power
Tab 4	Hazards and ED Judgement
Tab 5	Destructive Phenomena
Tab 6	Shutdown Systems Degradation
Tab 7	Radiological

3.1.3 Each of the EAL tabs includes one or more columns that address one initiating condition (*e.g., fires*). Each column provides EALs for each of the four emergency classifications, as applicable. A notation adjacent to each EAL identifies the plant operating mode(s) for which the EAL is applicable.

3.1.4 Each EAL is comprised of a CRITERION, printed in bold type, and one or more INDICATORs. The purpose of each is as follows:

3.1.4.1 CRITERION: identifies the emergency condition and any numeric values which define that condition (*i.e., the basis of the declaration*) All classifications are based on an assessment *(i.e., determination that the condition is VALID)* by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

3.1.4.2 INDICATOR: is available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Upon occurrence of one or more indicators, the Emergency Director performs an assessment against the criterion. Depending on the particular condition, this assessment may be as simple as a review of the criterion, an instrument channel check, or a detailed calculation as in the case of a radioactivity release.

3.1.4.3 Inherent in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

3.1.4.4 The INDICATORs were selected with the objective of providing unambiguous guidance to assist with assessment of the CRITERION. There may be other INDICATORs not envisioned by the writers of this procedure that, in the judgment of the Emergency Director, correspond to the CRITERION. In these cases, the Emergency Director should base the declaration on engineering judgment, using the supplied INDICATORs as examples of the severity of the condition.

3.2 Common Plant Conditions

3.2.1 IF an event occurs such that both reactor units are affected, e.g., tornado, toxic gas offsite, etc., THEN the senior Shift Manager shall make the appropriate classification and assume the role of Emergency Director.

3.2.2 IF the common plant condition results in a higher emergency classification at one reactor unit, THEN the Shift Manager from that unit shall make the appropriate classification and assume the role of Emergency Director.

3.3 Mode Applicability

3.3.1 The plant operating mode that existed at the time that the event occurred, prior to any protective system or operator action initiated in response to the condition, is compared to the mode applicability of the EALs.

3.3.2 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 that the event occurred.

3.3.3 The fission product barrier matrix is applicable only to those events that occur at mode 4 or higher. An event that occurs in modes 5 or 6 shall not be classified using the fission product barrier matrix, even if mode 4 is entered due to subsequent heatup. In these cases, Tab 6, Shutdown Systems Degradation, shall be used for classification.

3.4 Transient Events

3.4.1 For some EALs the existence of the event, without regard to duration, is sufficient to warrant classification. In these cases, the appropriate emergency classification is declared as soon as the Emergency Director assessment concludes that the CRITERION is met.

3.4.2 Some EALs specify a duration of occurrence. For these EALs the classification is made when Emergency Director assessment concludes that the specified duration is exceeded or will be exceeded (*i.e., condition can not be reasonably rectified before the duration elapses*), whichever is sooner.

3.4.3 IF a plant condition meeting an EAL CRITERION is rectified before the specified duration time is exceeded, THEN the event is NOT classified by that EAL. Lower severity EALs, if any, shall be reviewed for possible applicability in these cases.

3.4.4 IF a plant condition meeting an EAL CRITERION is NOT classified 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. However, reporting under 10 CFR 50.72 may be required. Such a condition could occur, for example, if a followup evaluation of an abnormal condition uncovers evidence that the condition was more severe than earlier believed.

3.4.5 IF an emergency classification was warranted, but the plant condition has been rectified (such that the CRITERION is no longer met) prior to declaration and notification, THEN the following guidance applies:

3.4.5.1 For transient events that would have been declared as UNUSUAL EVENTS, no emergency is declared. However, the event shall be reported to those local, state, and Federal agencies designated to receive the initial notification form. These agencies shall be told that the UNUSUAL EVENT condition was rectified upon detection and no emergency is being declared.

3.4.5.2 For transient events that would have been declared as an ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY, the event shall be declared and the emergency response organization activated. The EAL CRITERIA for these events has been set at a threshold that warrants declaration even if the initiating condition has been rectified. Termination can occur when the criteria of EPP/IP-6.2, *Termination of the Emergency and Recovery* can be satisified.

3.5 Declaration Timing and Assessment

Emergency conditions shall be classified as soon as the Emergency Director assessment of the INDICATORs shows that the CRITERION is met. IF the EAL specifies a duration, THEN the event shall be declared as soon as it is determined that the condition cannot be corrected within the specified period. In either case, the assessment time starts from the indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

3.5.1 The assessment time is limited to 15 minutes, except as follows:

3.5.1.1 IF the EAL specifies a duration (*e.g., release exceeds 2x T/S for one hour*), THEN the assessment time runs concurrently with the required duration AND is the same length (*e.g., in this example, one hour*).

3.5.1.2 The assessment time and any required duration are NOT additive.

3.5.2 IF the assessment cannot be completed within the specified period, THEN the event must be declared on the basis of INDICATORs that cannot be reasonably discounted.

3.6 Bases

3.6.1 Chapter 4 of the BVPS EPP provides the bases for these EALs. The bases can be used for guidance to assist the Emergency Director in classifying events for which the classification is not immediately apparent.

3.7 Defined Terms

3.7.1 In the EALs, words written in bold uppercase letters are defined terms having specific meanings as they relate to this procedure. Definitions of these terms are provided on the reverse side of most pages in the EAL section of this procedure. Such terms shall be interpreted as provided in the definitions.

E. PROCEDURE

1.0 DETERMINE OPERATING MODE THAT EXISTED AT THE TIME THAT THE EVENT OCCURRED PRIOR TO ANY PROTECTION SYSTEM OR OPERATOR ACTION INITIATED IN RESPONSE TO THE EVENT.

2.0 DETERMINE IF THE CONDITION AFFECTS FISSION PRODUCT BARRIERS AND, IF SO, PROCEED TO TAB 1.

2.1 IF the condition involves any of the following AND the initial mode was 1-4 THEN proceed to Tab 1 and follow instructions provided AND continue with Step 2.2.

2.1.1 CSF status tree ORANGE PATH or RED PATH conditions
2.1.2 Core exit thermocouple readings above 729 F
2.1.3 Reactor vessel full range water level less than 40% (no RCPs)
2.1.4 Elevated RCS activity >300 μCi/gm
2.1.5 Elevated Containment High Range Area Radiation Monitor reading
2.1.6 RCS leakrate large enough to require a 2nd charging pump
2.1.7 Loss of RCS subcooling
2.1.8 Steam Generator Tube Rupture
2.1.9 Containment bypass or loss of integrity
2.1.10 Rise in containment pressure or hydrogen concentration

2.2 Consider other related event-based EALs. IF other EALs are applicable, THEN perform Steps 3.0 and 4.0 if necessary. Otherwise, go to Step 5.0

3.0 CATEGORIZE THE EVENT INTO ONE OF THE INITIATING CONDITIONS AND LOCATE THE TAB.

3.1 Locate one of the EAL indices provided at the start of each tab.

3.2 Review the index to identify the tab that addresses the event that has occurred.

3.3 Turn to the appropriate tab.

NOTE:

The assessment of an emergency condition shall be completed as soon as possible and within 15 minutes of the occurance of one or more INDICATORs. IF the assessment cannot be completed within the specified period, THEN the event must be declared on the basis of INDICATORs that cannot be reasonably discounted.

NOTE:

IF the EAL specifies a duration (*e.g., release exceeds 2x T/S for one hour*), THEN the assessment time runs concurrently with the required duration AND is the same length.

4.0 ASSESS THE EVENT AND COMPARE TO THE EALS

4.1 Locate the EAL for the highest severity emergency classification that is applicable for the initiating condition and operating mode

4.2 Review the INDICATORs and CRITERION for that EAL

4.3 IF the specified INDICATORs are not observed, THEN:

4.3.1 Proceed to the next lower severity EAL and re-perform step 4.2 & 4.3.

4.3.2 IF none of the EALs for an initiating condition are met, THEN re-perform steps 3.0 and 4.0 for related initiating conditions.

4.3.3 IF the actions above do not identify an applicable EAL, THEN review the observed conditions against Tab 4.7, Hazards and Emergency Director Judgment.

4.3.4 IF, after performing the above, no EAL is identified, THEN proceed to step 6.0.

4.4 IF the specified INDICATORs are observed, THEN:

4.4.1 Perform necessary assessments to validate the instrument readings and/or confirm reported observations.

4.4.2 Initiate any sampling, inspections, or dose assessments specified by the EAL.

> **NOTE:**
>
> IF the CRITERION specifies an event or condition duration, THEN the classification shall be made as soon as the duration is exceeded, OR when it is apparent that the duration will be exceeded, whichever is earlier.

4.4.3 Compare the results of the assessments to the CRITERION.

> **NOTE:**
>
> A given INDICATOR may apply to more than one CRITERION. The Emergency Director shall review other related EALs for applicability.

4.5 IF the assessment concludes that the CRITERION is met, THEN the classification shall be made. Proceed to Step 5.0

4.6 IF the assessment concludes that the CRITERION is not met, THEN re-perform steps 3.0 and 4.0 for other related initiating conditions as applicable.

4.7 IF no classification results from the above, THEN proceed to step 6.0.

> **NOTE**
>
> The declaration of the emergency classification shall be made as soon as the Emergency Director has assessed that the EAL has been met OR will be met, AND within 15 minutes of occurance of the INDICATOR. Once the emergency is classified, notifications to state and local governments shall be completed within 15 minutes of the declaration.

5.0 DECLARE THE EMERGENCY CLASSIFICATION AND TRANSITION TO RESPONSE PROCEDURES

5.1 IF an UNUSUAL EVENT is declared, THEN proceed to EPP/I-2

5.2 IF an ALERT is declared, THEN proceed to EPP/I-3

5.3 IF a SITE AREA EMERGENCY is declared, THEN proceed to EPP/I-4

5.4 IF a GENERAL EMERGENCY is declared, THEN proceed to EPP/I-5

NOTE
The step below is implemented only if an emergency classification is NOT made. IF a classification is made, THEN the transition indicated in step 5.0 should have been made.

6.0 EVALUATE THE NEED FOR AND MAKE NON-EMERGENCY NOTIFICATIONS

6.1 IF the abnormal condition is reportable to the NRC pursuant to 10 CFR 50.72 and 1/2-ADM-2202, THEN perform the following:

6.1.1 Complete the NRC Reactor Plant Event Notification Worksheet (located on the Regulatory Affairs web page).

6.1.2 Notify First Energy Communications of the event and provide the information on the NRC Reactor Plant Event Notification Worksheet.

6.2 IF directed by station management, THEN make courtesy calls to the following state and local agencies on a timely basis consistent with normal working hours.

6.2.1 BCEMA
6.2.2 PEMA
6.2.3 CCEMA
6.2.4 HCOES

F. FINAL CONDITIONS

1.0 For emergency events, the transition to the appropriate response procedure has been made and actions pursuant to that procedure are in progress.

2.0 For non-emergency events, required notifications have been completed.

G. ATTACHMENTS

1.0 Tabs for Classification of Emergency Conditions

H. FIGURES

1.0 Figures are identified on the EAL indices

FISSION PRODUCT BARRIER MATRIX - U2

1.1 Fuel Clad Barrier

1.1.1 Critical Safety Function Status

LOSS	Potential LOSS
Core Cooling CSF RED PATH	Core Cooling CSF ORANGE PATH OR Heat Sink CSF RED PATH

-OR-

1.1.2 Three Max CETCs

LOSS	Potential LOSS
Greater than 1200F	Greater than 729F

-OR-

1.1.3 Reactor Vessel Water Level

LOSS	Potential LOSS
Not Applicable	RVLIS Full Range <40% (no RCPs running)

-OR-

1.1.4 Primary Coolant Activity Level

LOSS	Potential LOSS
RCS activity >300µCi/gm dose equivalent Iodine-131	Not Applicable

-OR-

1.1.5 Letdown Monitor Indication

LOSS	Potential LOSS
2CHS-RQ101 A/B [3051] VALID reading greater than 300µCi/ml with letdown unisolated	Not Applicable

-OR-

1.1.6 Containment Radiation Monitors

LOSS	Potential LOSS
VALID reading exceeds:	Not Applicable

2RMR-RQ206

Time After S/D, hrs	2RMR-RQ207 R/hr	2RMR-RQ202* mR/hr
0-0 5	340	1100
0 5-4	190	560
4-12	120	280
12-24	60	130

** Due to streaming thru airlock*

2RMR-RQ202 = chn 3020
2RMR-RQ206 = chn 1029
2RMR RQ207 = chn 1030

-OR-

1.1.7 Emergency Director Judgement

Any condition that, in the judgement of the SM/ED, indicates loss or potential loss of the Fuel Clad barrier comparable to the indicators listed above.

LOSS ☐ Potential LOSS ☐

1.2 RCS Barrier

1.2.1 Critical Safety Function Status

LOSS	Potential LOSS
Not Applicable	RCS Integrity CSF RED PATH OR Heat Sink CSF RED PATH

-OR-

1.2.2 Reactor Vessel Water Level

LOSS	Potential LOSS
RVLIS Full Range <40% (no RCPs running)	Not Applicable

-OR-

1.2.3 RCS Leak Rate

LOSS	Potential LOSS
RCS leak results in loss of RCS subcooling	Unisolable RCS leak that requires an additional charging pump be started with letdown isolated. OR RCS leak causes safety injection actuation indicated by direct entry into EOP E-1 required by EOP E-0

-OR-

1.2.4 Primary to Secondary Leak

LOSS	Potential LOSS
SGTR that results in a safety injection actuation OR Entry into E-3 required by EOPs	Not Applicable

-OR-

1.2.5 Containment Radiation Monitors

LOSS	Potential LOSS
+VALID reading above background exceeds:	Not Applicable

Time After S/D, hrs	2RMR-RQ201 mR/hr	2RMR-RQ202* mR/hr
0-0 5	130	1 0
0 5-4	80	0 5
4-12	40	0 3
12-24	25	N/A

+Readings based on T/S RCS Activity

** Due to streaming thru airlock*

2RMR-RQ201 = chn 1026
2RMR-RQ202 = chn 3020

-OR-

1.2.6 Emergency Director Judgement

Any condition that, in the judgement of the SM/ED, indicates loss or potential loss of the RCS barrier comparable to the indicators listed above.

LOSS ☐ Potential LOSS ☐

1.3 CNMT Barrier

1.3.1 Critical Safety Function Status

LOSS	Potential LOSS
Not Applicable	CNMT CSF RED PATH OR Actions of FR-C.1 (RED PATH) are INEFFECTIVE

-OR-

1.3.2 Containment Pressure / Hydrogen Conc.

LOSS	Potential LOSS
Rapid unexplained drop in CNMT pressure following initial rise OR CNMT pressure or sump level response NOT consistent with LOCA conditions	CNMT pressure >45 PSIG OR CNMT H2 rises >4% OR CNMT pressure >8 PSIG with less than one full train of CNMT spray

-OR-

1.3.3 Containment Isolation Status

LOSS	Potential LOSS
CNMT isolation is incomplete creating a direct release path to the environment when required	Not Applicable

-OR-

1.3.4 Containment Bypass

LOSS	Potential LOSS
RUPTURED S/G is also FAULTED Outside of CNMT OR P-to-S leakrate >T/S with approx. 4-8 hr. steam release from affected S/G via nonisolable MSSV, SGADV, or from MSLB outside of CNMT	Unexplained VALID rise in reading on area or ventilation monitors in contiguous areas with known LOCA OR HIGH Alarm on 2SWS-RQ100A,B,C, or D AND affected HX is NOT isolated

-OR-

1.3.5 Significant Radioactivity in Containment

LOSS	Potential LOSS
Not Applicable	VALID reading exceeds:

** Due to streaming thru airlock*

2RMR-RQ202 = chn 3020
2RMR-RQ206 = chn 1029
2RMR-RQ207 = chn 1030

2RMR RQ206

Time After S/D, hrs	2RMR-RQ207 R/hr	2RMR-RQ202* mR/hr
0-0 5	2 0E4	7 0E4
0 5-4	7 0E3	2.3E4
4-12	2 9E3	9 0E3
12-24	1 4E3	3 8E3

-OR-

1.3.6 Emergency Director Judgement

Any condition that, in the judgement of the SM/ED, indicates loss or potential loss of the Containment barrier comparable to the indicators listed above.

LOSS ☐ Potential LOSS ☐

Modes: 1,2,3,4
INSTRUCTIONS

NOTE: An INDICATOR is considered to be MET if the stated threshold has been, or is, reached or exceeded, on the basis of confirmed observation or VALID instrument readings. The Emergency Director must use judgement when classifying parameters that may be transitory (e.g., containment pressure).

NOTE: The INDICATOR should be considered MET if the parameter is indeterminate due to instruments that are not available or out of range and the existence of the condition can not be reasonably discounted.

NOTE: An INDICATOR is considered to be MET if, in the judgement of the Emergency Director, the INDICATOR will be MET imminently (i.e., within 1 to 2 hours in the absence of a viable success path) The classification shall be made as soon as this determination is made.

1. In the matrix to the left, review the LOSS INDICATORS in each barrier column. If one or more INDICATORS are met, check the LOSS block at the bottom of the column.
2. If no LOSS is identified for a particular barrier, review the potential LOSS INDICATORS for that barrier. If one or more INDICATORS are met, check the potential LOSS block at the bottom of the barrier column.
3. Compare the blocks checked to the CRITERIA below and make the appropriate declaration.

CRITERIA

GENERAL EMERGENCY

LOSS of any Two (2) barriers and Potential loss of third barrier.
OR
LOSS of all three (3) barriers.

SITE AREA EMERGENCY

LOSS or Potential LOSS of any two (2) barriers.
OR
LOSS of one (1) barrier and a Potential LOSS of a second barrier.

ALERT

Any LOSS or Potential LOSS of Fuel Clad barrier.
OR
Any LOSS or Potential LOSS of RCS barrier.

UNUSUAL EVENT

LOSS or Potential Loss of CNMT barrier.

SEE ALSO EAL'S:

2.4 Fuel Clad Degradation (RCS Specific Activity >LCO)
2.5 RCS Unidentified or Pressure Boundry Leakage > 10 gpm.
2.6 RCS Identified Leakage > 25 gpm.

1.1, 1.2, 1.3

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition (*i.e., the basis of the declaration*). All classifications are based on an assessment (*i.e., determination that the condition is VALID*) by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

CRITICAL SAFETY FUNCTION (CSFs): A plant safety function required to prevent significant release of core radioactivity to the environment. There are six CSFs: Subcriticality, Core Cooling, Heat Sink, Vessel Integrity *(Pressurized Thermal Shock)*, Integrity *(Containment)* and Inventory *(RCS)*.

EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A.

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i.e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded.

INEFFECTIVE: The specified restoration action(s) does not result in a reduction in the level of severity of the RED PATH condition within 15 minutes from identification of the Core Cooling CSF Status Tree RED PATH TERMINUS. A reduction in the level of severity is an improvement in the applicable parameters (e.g., increasing trend in reactor vessel water level (RVLIS full range) and/or decreasing trend on core thermocouple temperatures).

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

PROJECTILE: An object ejected, thrown, or launched towards a plant structure. The source of the projectile may be onsite or offsite. Potential for damage is sufficient to cause concern regarding the integrity of the affected structure or the operability or reliability of safety equipment contained therein.

The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge.

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A.

STRIKE ACTION: A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on the BVPS or one of its vendors. The STRIKE ACTION must threaten to interrupt normal plant operations to be considered.

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

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.

With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases, unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e.g., alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank).

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 indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment (i.e., within 15 minutes).

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 includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

VITAL AREA is 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

SYSTEM DEGRADATION - U2

2.1 Loss of Instrumentation

Mode	Criterion / Indicator
		GENERAL	*Refer to Tab 1 "Fission Product Barrier Matrix" and Tab 7 "Radiological Effluents"*
1 2 3 4	SITE AREA	**Inability to monitor a SIGNIFICANT TRANSIENT in progress** *[1 and 2 and 3]* 1. Loss of most (>75%) annunciators <u>or</u> indications 2. **SIGNIFICANT TRANSIENT** in progress 3. Inability to directly monitor any of the following CSFs: Subcriticality — Vessel Integrity Core Cooling — Containment Heat Sink
1 2 3 4	ALERT	**UNPLANNED loss of most annunciators <u>or</u> indications for >15 minutes with either a SIGNIFICANT TRANSIENT in progress <u>or</u> a loss of non-alarming compensatory indications** *[1 and 2 and 3]* 1. **UNPLANNED** loss of most (>75%) annunciators <u>or</u> indications for >15 minutes 2. SM judgement that additional personnel (beyond normal shift complement) are required to monitor the safe operation of the unit 3. *[a or b]* a. **SIGNIFICANT TRANSIENT** in progress b. Loss of SPDS
1 2 3 4	UNUSUAL EVENT	**UNPLANNED loss of most annunciators <u>or</u> indications for >15 minutes** *[1 and 2]* 1. **UNPLANNED** loss of most (>75%) annunciators <u>or</u> indications for >15 minutes 2. SM judgement that additional personnel (beyond normal shift complement) are required to monitor the safe operation of the unit

2.2 Loss of Function

Mode	Criterion / Indicator
1 2 3 4	**Inability to cool the core** *[1 or 2]* 1. Actions of FR-C.1 **(RED PATH)** are **INEFFECTIVE** 2. *[a and b]* a. Three max core exit thermocouples >1200 F, or three max core exit thermocouples >729 F with NO RCPs running <u>and</u> RVLIS full range level <40% b. Actions taken have NOT resulted in a rising trend in RVLIS full range level <u>or</u> a dropping trend in core exit thermocouple temperatures within 15 minutes of initiation of restoration actions
1 2 3 4	**Loss of function needed to achieve <u>or</u> maintain hot shutdown** *[1 or 2]* 1. Ops personnel report a CSF status tree **RED PATH** terminus for core cooling or heat sink exists 2. Three max core exit thermocouples >1200 F; <u>or</u> three max core exit thermocouples >729 F with NO RCPs running <u>and</u> RVLIS full range level <40% Also Refer to *Tab 2.3 "Failure of Reactor Protection" and Tab 1 "Fission Product Barrier Matrix"*
1 2 3 4	**Complete loss of function needed to achieve Cold Shutdown when Shutdown required by Tech Specs** *[1 and 2 and 3]* 1. Loss of decay heat removal capability (RHR, CCR, or RPRW) / (RHS, CCP, SWS) 2. Inability to remove heat via the condenser 3. Shutdown to mode 5 required by T/S
ALL	**UNPLANNED Loss of communications** *[1 or 2]* 1. In-plant *[a and b and c]* a. **UNPLANNED** Loss of All Pax Phones b. **UNPLANNED** Loss of All Gaitronics (Page/Party) c. **UNPLANNED** Loss of All Radios (Handie-Talkies) 2. Offsite *[a and b and c]* a. **UNPLANNED** Loss of ENS b. **UNPLANNED** Loss of Bell Lines c. **UNPLANNED** Loss of Radios to Offsite

2.3 Failure of Rx Protection

Mode	Criterion / Indicator
1 2	**Reactor power >5% after VALID trip signal(s) <u>and</u> loss of core cooling capability** *[1 and 2]* 1. Ops personnel report FR-S.1 has been entered <u>and</u> subsequent actions do NOT result in reduction of power to <5% and decreasing 2. *[a or b]* a. Ops personnel report CSF status tree **RED PATH** terminus exists for core cooling or heat sink b. Three max core exit thermocouples >1200 F; or three max core exit thermocouples >729 F with NO RCPs running <u>and</u> RVLIS full range level <40%
1 2	**Reactor trip failure after VALID Trip signal(s) with reactor power >5% and attempts to cause a manual trip from the control room are unsuccessful.** 1. Ops personnel report FR-S.1 has been entered <u>and</u> manual reactor trip from control room did NOT result in reduction of power to <5% and decreasing
1 2	**Automatic reactor trip did not occur after VALID trip signal and manual trip from control room was successful** *[1 and 2]* 1. **VALID** reactor trip signal received or required. 2. Manual reactor trip from control room was successful and power is <5% and decreasing
	Not Applicable

2.4 Fuel Clad Degradation

Mode	Criterion / Indicator
		GENERAL	*Refer to Tab 1 "Fission Product Barrier Matrix"*
	SITE AREA	*Refer to Tab 1 "Fission Product Barrier Matrix"*
	ALERT	*Refer to Tab 1 "Fission Product Barrier Matrix"*
1 2 3 4 5	UNUSUAL EVENT	**Reactor coolant system specific activity exceeds LCO (refer to BVPS technical specification 3.4.8)** *[1 or 2]* 1. **VALID** high alarm on 2CHS-RQ101A/B [3051] reactor coolant letdown monitor 2. Radiochemistry analysis exceeds Technical Specification 3.4.8

2.1, 2.2, 2.3, 2.4

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition (*i.e., the basis of the declaration*). All classifications are based on an assessment (*i.e., determination that the condition is VALID*) by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

CRITICAL SAFETY FUNCTION (CSFs): A plant safety function required to prevent significant release of core radioactivity to the environment. There are six CSFs: Subcriticality, Core Cooling, Heat Sink, Vessel Integrity *(Pressurized Thermal Shock)*, Integrity *(Containment)* and Inventory *(RCS)*

EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A.

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded.

INEFFECTIVE: The specified restoration action(s) does not result in a reduction in the level of severity of the RED PATH condition within 15 minutes from identification of the Core Cooling CSF Status Tree RED PATH TERMINUS. A reduction in the level of severity is an improvement in the applicable parameters (e.g., increasing trend in reactor vessel water level (RVLIS full range) and/or decreasing trend on core thermocouple temperatures).

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

PROJECTILE: An object ejected, thrown, or launched towards a plant structure. The source of the projectile may be onsite or offsite. Potential for damage is sufficient to cause concern regarding the integrity of the affected structure or the operability or reliability of safety equipment contained therein.

The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge.

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A.

STRIKE ACTION: A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on the BVPS or one of its vendors. The STRIKE ACTION must threaten to interrupt normal plant operations to be considered.

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

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.

With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases, unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e.g., alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank).

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 indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment (i.e., within 15 minutes).

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 includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

VITAL AREA is 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

SYSTEM DEGRADATION - U2

2.5 RCS Unidentified Leakage

	Mode	Criterion / Indicator
GENERAL		**Refer to Tab 1 "Fission Product Barrier Matrix"**
SITE AREA		*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT		*Refer to Tab 1 "Fission Product Barrier Matrix"*
UNUSUAL EVENT	1 2 3 4 5*	**Unidentified or pressure boundary RCS leakage >10 GPM** 1. Unidentified or pressure boundary leakage (as defined by Technical Specifications) >10 GPM as indicated below *[a or b]* a. OST 2.6.2A results b. With RCS temp. and PZR level stable, VCT level dropping at a rate >10 GPM (>1%/min indicated on 2CHS-LI-115 with no VCT makeup in progress) **Applies to Mode 5 if RCS Pressurized*

2.6 RCS Identified Leakage

	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 1 "Fission Product Barrier Matrix"*
SITE AREA		*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT		*Refer to Tab 1 "Fission Product Barrier Matrix"*
UNUSUAL EVENT	1 2 3 4 5*	**Identified RCS leakage >25 GPM** 1. Identified RCS leakage (as defined by Technical Specifications) >25 GPM as indicated below *[a or b]* a. OST 2.6.2 or 2.6.2A Results b. **UNPLANNED** level rise in excess of 25 GPM total into PRT, 2DGS-TK-21, and 2DGS-TK-22 **Applies to Mode 5 if RCS Pressurized*

2.7 Technical Specification

	Mode	Criterion / Indicator
GENERAL		*Not Applicable*
SITE AREA		*Not Applicable*
ALERT		*Refer to Tab 2.2, "Loss of Function"*
UNUSUAL EVENT	1 2 3 4	**Inability to Reach Required Shutdown Mode Within Technical Specification Time Limits** *[1 and 2]* 1. A Technical Specification action statement, requiring a mode reduction, has been entered 2. The unit has NOT been placed in the required mode within the time prescribed by the action statement

2.8 Safety Limit

	Mode	Criterion / Indicator
GENERAL		*Not Applicable*
SITE AREA		*Not Applicable*
ALERT		*Not Applicable*
UNUSUAL EVENT	1 2 3 4 5	**Safety Limit Has Been Exceeded** *[1 or 2]* 1. Technical Specification 2.1.1 specifies the safety limits for the reactor core which are applicable in Modes 1 and 2. 2. Technical Specification 2.1.2 specifies the safety limit for the Reactor Coolant System pressure which is applicable in Modes 1, 2, 3, 4 and 5.

2.5, 2.6, 2.7, 2.8

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition (*i.e., the basis of the declaration*). All classifications are based on an assessment (*i.e., determination that the condition is VALID*) by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

CRITICAL SAFETY FUNCTION (CSFs): A plant safety function required to prevent significant release of core radioactivity to the environment. There are six CSFs: Subcriticality, Core Cooling, Heat Sink, Vessel Integrity *(Pressurized Thermal Shock)*, Integrity *(Containment)* and Inventory *(RCS)*.

EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A.

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded.

INEFFECTIVE: The specified restoration action(s) does not result in a reduction in the level of severity of the RED PATH condition within 15 minutes from identification of the Core Cooling CSF Status Tree RED PATH TERMINUS. A reduction in the level of severity is an improvement in the applicable parameters (e.g., increasing trend in reactor vessel water level (RVLIS full range) and/or decreasing trend on core thermocouple temperatures).

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

PROJECTILE: An object ejected, thrown, or launched towards a plant structure. The source of the projectile may be onsite or offsite. Potential for damage is sufficient to cause concern regarding the integrity of the affected structure or the operability or reliability of safety equipment contained therein.

The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge.

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

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

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

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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 indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment (i.e., within 15 minutes).

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SYSTEM DEGRADATION - U2

	2.9 Turbine Failure	
	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 1 "Fission Product Barrier Matrix"*
SITE AREA		*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT	1 2 3	**Turbine failure generated missiles cause penetration of a missile shield wall of any area containing safety related equipment** 1. Plant personnel report missiles generated by turbine failure with casing penetration also results in a through-wall penetration of a missile shield wall listed in Table 2-1
UNUSUAL EVENT	1 2 3	**Turbine failure results in casing penetration** 1. Plant personnel report a turbine failure which results in penetration of the turbine casing <u>or</u> damage to main generator seals with evidence of significant hydrogen or seal oil leakage

	2.10 Steam/Feed Line Break	
	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 1 "Fission Product Barrier Matrix"*
SITE AREA		*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT		*Refer to Tab 1 "Fission Product Barrier Matrix"*
UNUSUAL EVENT	1 2 3 4	**UNPLANNED rapid depressurization of the Main Steam System resulting in a rapid RCS cooldown <u>and</u> Safety Injection actuation** *[1 and 2]* 1. Ops personnel report rapid depressurization of Main Steam System that causes SLI (<500 psig) 2. Ops personnel report Safety Injection has actuated

Table 2-1
Plant Areas Associated With Shield Wall Penetration EAL

Diesel Generator Bldg.	Service Bldg 745' and 760'
Electrical Switchgear 730'	Containment
Main Steam Valve Room	Primary Aux. Building
2FWE-TK210	

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

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EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A.

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

EXTORTION: An attempt to cause an action at the station by threat of force

FAULTED: (Steam Generator) Existence of secondary side leakage (i.e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

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The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

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LOSS OF POWER - U2

3.1 Loss of AC (Power Ops)

	Mode	Criterion / Indicator
GENERAL	1 2 3 4	**Prolonged loss of offsite <u>and</u> onsite AC power** *[1 and 2]* 1. AE <u>and</u> DF 4KV emergency buses <u>NOT</u> energized from Unit 2 sources for >15 minutes 2. *[a or b or c]* a. Ops personnel report CSF status tree **RED PATH <u>or</u> ORANGE PATH** terminus exists for core cooling b. Restoration of either AE <u>or</u> DF 4KV emergency bus is NOT likely from any source within 4 hours of loss c. Three max core exit thermocouples >1200 F <u>or</u> three max core exit thermocouples >729 F with no RCPs running <u>and</u> RVLIS full range <40%
SITE AREA	1 2 3 4	**Loss of offsite <u>and</u> onsite AC power for >15 minutes** 1. AE <u>and</u> DF 4KV emergency buses <u>NOT</u> energized from Unit 2 sources for >15 minutes
ALERT	1 2 3 4	**AC power to emergency buses reduced to a single source of power such that any additional failure will result in the de-energization of both buses** *[1 and 2]* 1. Either AE <u>or</u> DF 4KV emergency bus is de-energized for >15 minutes 2. The energized AE <u>or</u> DF 4KV emergency bus has only one source of power *[a or b]* a. Emergency diesel generator b. 2A <u>or</u> 2D 4KV normal bus
UNUSUAL EVENT	1 2 3 4	**Loss of offsite power for >15 minutes** *[1 and 2]* 1. 2A <u>and</u> 2D 4KV normal buses de-energized for >15 minutes 2. Each diesel generator is supplying power to its respective emergency bus

3.2 Loss of AC (Shutdown)

	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 6 "Shutdown System Degradation"*
SITE AREA		*Refer to Tab 6 "Shutdown System Degradation"*
ALERT	5 6 De-fuel	**UNPLANNED loss of offsite <u>and</u> onsite AC power for >15 minutes** 1. AE <u>and</u> DF 4KV emergency buses <u>NOT</u> energized from Unit 2 sources for >15 minutes *Also Refer to Tab 6 "Shutdown System Degradation"*
UNUSUAL EVENT	5 6 De-fuel	**UNPLANNED loss of offsite power for >15 minutes** *[1 and 2]* 1. 2A <u>and</u> 2D 4KV normal buses de-energized for >15 minutes 2. Either diesel generator is supplying power to its respective emergency bus

3.3 Loss of DC Power

	Mode	Criterion / Indicator
GENERAL		**Refer to Tab 1 "Fission Product Barrier Matrix" and Tab 2.2 "Loss of Function", and Tab 6.1 "Loss of Shutdown Systems"**
SITE AREA	1 2 3 4	**Loss of all vital DC power for >15 minutes** 1. Voltage <110 4 VDC on DC buses 2-1 <u>and</u> 2-2 <u>and</u> 2-3 <u>and</u> 2-4 for >15 minutes *Also Refer to Tab 1 "Fission Product Barrier Matrix", Tab 2.2 "Loss of Function", and Tab 2.1 "Loss of Instrumentation" and Tab 6.1 "Loss of Shutdown Systems"*
ALERT		*Refer to Tab 1 "Fission Product Barrier Matrix", Tab 2.2 "Loss of Function", and Tab 2.1 "Loss of Instrumentation" and Tab 6.1 "Loss of Shutdown Systems"*
UNUSUAL EVENT	1 2 3 4	**UNPLANNED loss of one train of DC power for >15 minutes** *[1 or 2]* 1. Voltage <110.4 VDC on DC Buses 2-1 <u>and</u> 2-3 for >15 minutes 2. Voltage <110.4 VDC on DC buses 2-2 <u>and</u> 2-4 for >15 minutes *Refer to Tab 6.4 "Loss of DC (Shutdown)" for modes 5, 6, and defueled*

DEFINITIONS/ACRONYMS

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HAZARDS / ED JUDGEMENT - U2

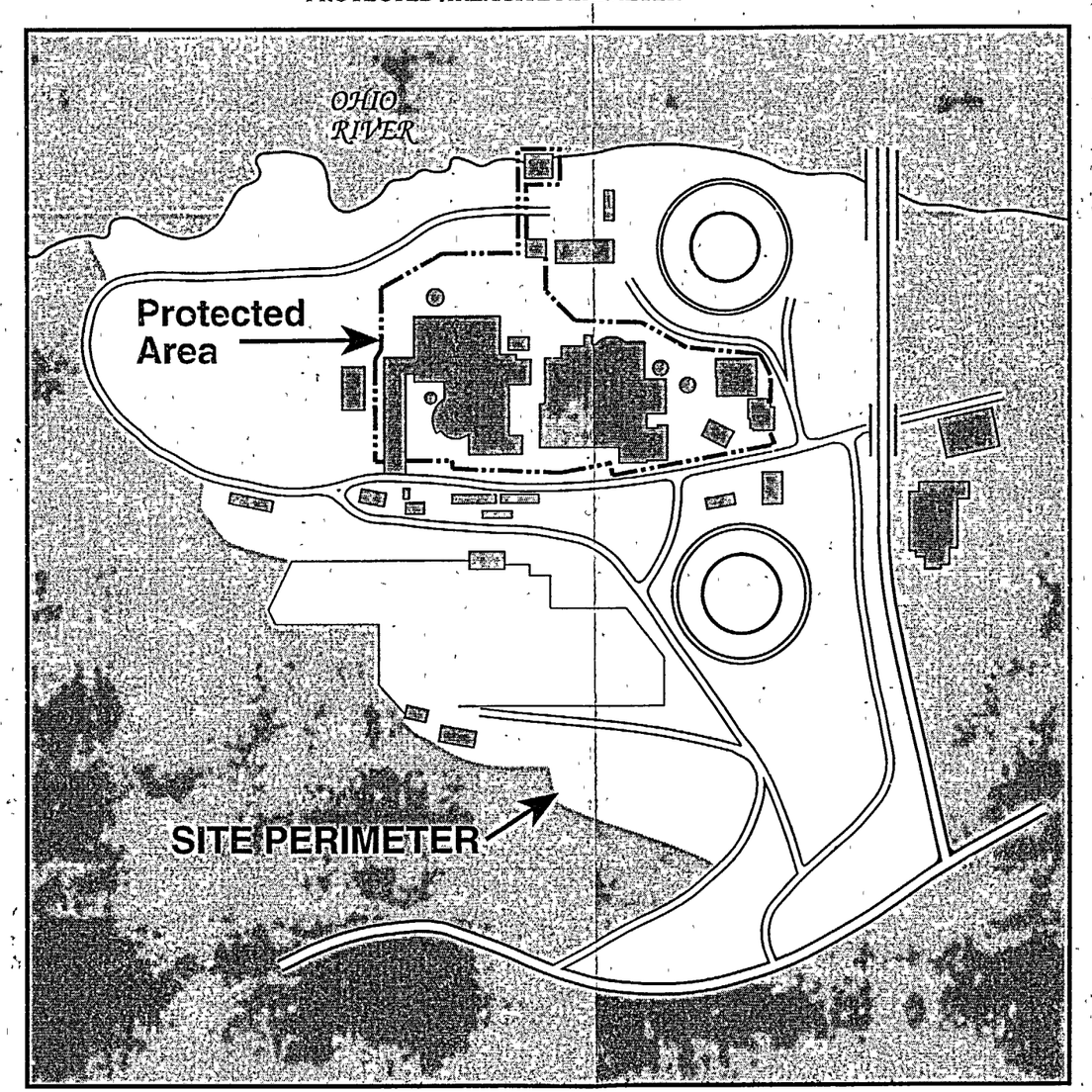
4.1, 4.2 Table 4-1, Figure 4-A

	4.1 Fire		4.2 Explosions	
	Mode	Criterion / Indicator	Mode	Criterion / Indicator
GENERAL	1 2 3 4	**FIRE in the Instrument and Relay Room (CB-1), Cable Spreading Room (CB-2), Control Room (CB-3), West Communications Room (CB-6), or Cable Tunnel (CB-1) resulting in an evacuation of the control room per 2.56C.4 *"Alternate Safe Shutdown"* <u>and</u> loss of any required equipment results in an uncontrolled RCS Heatup** *[1 and 2 and 3]* 1. 2.56C.4 *"Alternate Safe Shutdown"* entered 2. Ops personnel report inability to operate any of the following equipment required by 2.56C.4 *"Alternate Safe Shutdown"* 2CHS-P21A 2SWS-P21A 2FWE-P23A & 2FWE-P22 EGS-EG2-1 Black DG Alternate S/D Panel 2SAS-C21A 2CCP-P21A 2RHS-P21A 3. Uncontrolled RCS heatup lasting longer than 15 minutes		*Refer to Tab 4.1 "Fire" or Tab 1 "Fission Product Barrier Matrix"*
SITE AREA	1 2 3 4.	**FIRE in the Instrument and Relay Room (CB-1), Cable Spreading Room (CB-2), Control Room (CB-3), West Communications Room (CB-6), or Cable Tunnel (CB-1) resulting in an evacuation of the control room per 2.56C.4 *"Alternate Safe Shutdown"*** 1. 2.56C.4 *"Alternate Safe Shutdown" entered*		*Refer to Tab 4.1 "Fire" or Tab 1 "Fission Product Barrier Matrix"*
ALERT	All	**FIRE in any of the areas listed in Table 4-1 that is affecting safety related equipment** *[1 and 2]* 1. **FIRE** in any of the listed areas in Table 4-1 2. *[a or b]* a. Ops personnel report **VISIBLE DAMAGE** to permanent structure <u>or</u> equipment in listed area due to **FIRE** b. Control room indication of degraded system <u>or</u> component (within listed areas) response due to **FIRE**	All	**EXPLOSION in any of the areas listed in Table 4-1 that is affecting safety related equipment** *[1 and 2]* 1. **EXPLOSION** in any of the listed areas in Table 4-1 2. *[a or b]* a. Ops personnel report **VISIBLE DAMAGE** to permanent structure <u>or</u> equipment in listed area b. Control room indication of degraded system <u>or</u> component (within listed areas) response due to **EXPLOSION** *Refer to Tab 4.6 "Security"*
UNUSUAL EVENT	All	**FIRE in <u>or</u> adjacent to those areas listed in Table 4-1 not extinguished within 15 minutes from the time of control room notification <u>or</u> verification of control room alarm**	All	**UNPLANNED EXPLOSION in <u>or</u> adjacent to those areas listed in Table 4-1** 1. **UNPLANNED EXPLOSION** in <u>or</u> adjacent to any of the listed areas in Table 4-1 *Refer to Tab 4.1, "Fire" or Tab 1 "Fission Product Barrier Matrix"* *Refer to Tab 4.6 "Security"*

TABLE 4-1
PLANT AREAS ASSOCIATED WITH FIRE AND EXPLOSION EALS

Control Room	Diesel Gen. Bldgs	Containment Building
Inst & Relay Rm 707	Intake Str Cubicles	Prim. Auxiliary Building
Emerg. Switchgear	U1/U2 Cable Tunnel (CV-3)	Rod Control Cable Vault Bldg.
Relay Room	Safeguards Building	Cable Spreading Room 725
Main Steam Vlv Rm	Fuel Building	West Communications Room 707
Penetrations Area	Service Building	ERF Substa & ERF DG Bldg
Cable Tunnel 712	Cable Tunnel 735	RWST 2QSS-TK21

Figure 4-A
PROTECTED AREA/SITE PERIMETER



DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition (*i.e., the basis of the declaration*). All classifications are based on an assessment (*i.e., determination that the condition is VALID*) by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

CRITICAL SAFETY FUNCTION (CSFs): A plant safety function required to prevent significant release of core radioactivity to the environment. There are six CSFs: Subcriticality, Core Cooling, Heat Sink, Vessel Integrity *(Pressurized Thermal Shock)*, Integrity *(Containment)* and Inventory *(RCS)*.

EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A.

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i.e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded.

INEFFECTIVE: The specified restoration action(s) does not result in a reduction in the level of severity of the RED PATH condition within 15 minutes from identification of the Core Cooling CSF Status Tree RED PATH TERMINUS. A reduction in the level of severity is an improvement in the applicable parameters (e.g., increasing trend in reactor vessel water level (RVLIS full range) and/or decreasing trend on core thermocouple temperatures).

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

PROJECTILE: An object ejected, thrown, or launched towards a plant structure. The source of the projectile may be onsite or offsite. Potential for damage is sufficient to cause concern regarding the integrity of the affected structure or the operability or reliability of safety equipment contained therein.

The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge.

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A.

STRIKE ACTION: A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on the BVPS or one of its vendors. The STRIKE ACTION must threaten to interrupt normal plant operations to be considered.

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

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.

With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases, unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e.g., alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank).

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 indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment (i.e., within 15 minutes).

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 includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

VITAL AREA is 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

	4.3 Flammable Gas	
	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 4.1 "Fire", Tab 4.2 "Explosion, or Tab 1 "Fission Product Barrier Matrix"*
SITE AREA		*Refer to Tab 4.1 "Fire", Tab 4.2 "Explosion", or Tab 1 "Fission Product Barrier Matrix"*
ALERT	All	**Release of flammable gas within, or contiguous to, a VITAL AREA which jeopardizes operation of systems required to maintain safe operations or to establish or maintain cold shutdown (Mode 5).** 1. Report or detection of a flammable gas within, or contiguous to, a **VITAL AREA** in concentrations greater than explosive concentrations.
UNUSUAL EVENT	All	**Release of flammable gas affecting the PROTECTED AREA deemed detrimental to the safe operation of the plant.** *(1 or 2)* *1. (a and b)* a. Report or detection of flammable gas that could enter the **SITE PERIMETER** in amounts that can affect normal operation of the plant (Refer to Figure 4-A). b. Normal operation of the plant is impeded due to access restrictions implemented by the Control Room within the **PROTECTED AREA** (Refer to Figure 4-A). 2. **Report by local, county or State officials for a potential evacuation of site personnel based on an offsite event.**

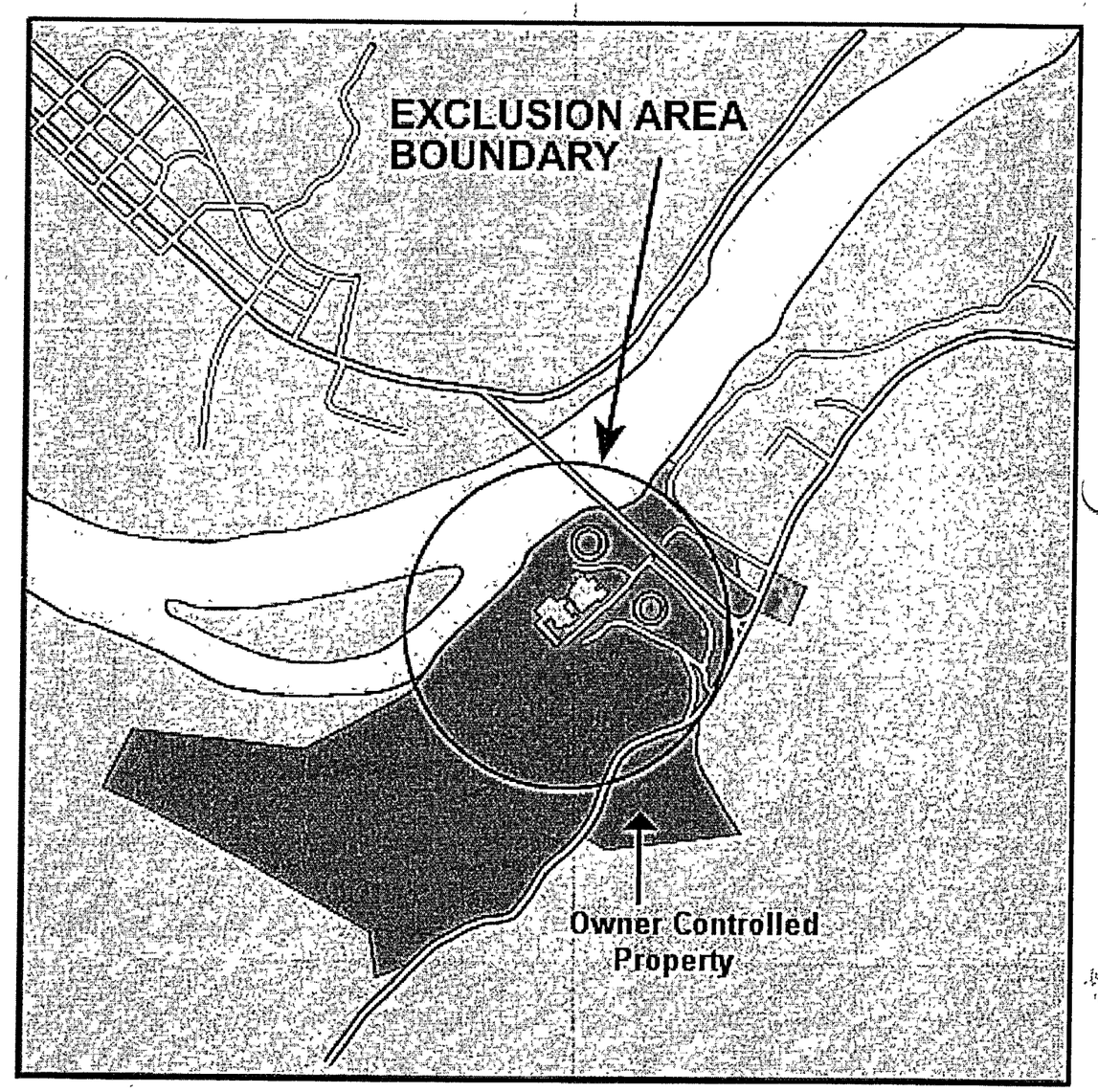
	4.4 Toxic Gas	
	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 1 "Fission Product Barrier Matrix"*
SITE AREA		*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT	All	**Release of TOXIC GAS within, or contiguous to, a VITAL AREA which jeopardizes operation of systems required to maintain safe operations or to establish or maintain cold shutdown (Mode 5).** *(1 and 2)* 1. Report or detection of a **TOXIC GAS** within, or contiguous to, a **VITAL AREA** or an area required for continued safe operation in concentrations that will be life threatening to plant personnel. 2. Plant personnel would be unable to perform actions necessary for continued safe operation or to establish and maintain cold shutdown (Mode 5) while utilizing appropriate personnel protection equipment.
UNUSUAL EVENT	All	**Release of TOXIC GAS affecting the PROTECTED AREA deemed detrimental to the safe operation of the plant.** *(1 or 2)* 1. *(a and b)* a. Report or detection of **TOXIC GAS** that could enter the **SITE PERIMETER** in amounts that can affect normal operation of the plant (Refer to Figure 4-A). b. Normal operation of the plant is impeded due to access restrictions implemented by the Control Room within the **PROTECTED AREA** (Refer to Figure 4-A). 2. Report by local, county or State officials for a potential evacuation of site personnel based on an offsite event. *Refer to AOP 1/2 44A.1 "Chlorine/toxic Gas Release", Attachment 3 for a list of chemicals stored, produced, or transported near BVPS and their toxicity limits.*

TABLE 4.2 HAS BEEN DELETED

FIGURE 4-B HAS BEEN DELETED

Figure 4-C

EXCLUSION AREA BOUNDARY



HAZARDS / ED JUDGEMENT - U2

4.5 Control Room Evacuation

	Mode	Criterion / Indicator
GENERAL		**Refer to Tab 4.1 "FIRE"**
SITE AREA	All	**Evacuation of the control room has been initiated <u>and</u> control of all necessary equipment has not been established within 15 minutes of manning the Shutdown Panel** *[1 and 2]* 1. AOP 2.33.1A *"Control Room Inaccessibility"* has been entered 2. Inability to transfer and operate any single component listed in Table 4-3 within 15 minutes of manning the shutdown panel *Also refer to Tab 4.1 "Fire"*
ALERT	All	**Evacuation of the control room is required** 1. AOP 2.33.1A *"Control Room Inaccessibility"* has been entered
UNUSUAL EVENT		*Not Applicable*

4.6 Security

	Mode	Criterion / Indicator
GENERAL	All	**Security event resulting in loss of control of the systems necessary to establish or maintain cold shutdown** *[1 or 2]* 1. Hostile armed force has taken control of the control room <u>or</u> the remote shutdown panel 2. Hostile armed force has taken control of plant equipment such that Ops personnel report the inability to operate equipment necessary to maintain the following functions *[a or b or c]:* a Subcriticality b. Core cooling c. Heat Sink
SITE AREA	All	**Security event has <u>or</u> is occurring which results in actual or likely failures of plant functions needed to protect the public** *[1 or 2]* 1. **VITAL AREA**, other than the control room, has been penetrated by a hostile armed force 2. Suspected **BOMB** detonates within a **VITAL AREA**
ALERT	All	**Credible Security event which indicates an actual <u>or</u> potential substantial degradation in the level of safety of the plant** *[1 or 2 or 3]* 1. **BOMB** discovered within a **VITAL AREA** 2. **CIVIL DISTURBANCE** ongoing within the **PROTECTED AREA** 3. **PROTECTED AREA** has been penetrated by a hostile armed force *Refer to Figure 4-A for a drawing of the* ***PROTECTED AREA***
UNUSUAL EVENT	All	**Credible Security event which indicates a potential degradation in the level of safety of the plant** *[1 or 2]* 1. **BOMB** discovered within the **PROTECTED AREA** 2. Security Shift Supervisor reports one or more of the events listed in Table 4-4 *Refer to Figure 4-A for a drawing of the* ***PROTECTED AREA***

4.7 Emergency Director Judgement

	Mode	Criterion / Indicator
GENERAL	All	**Events are in process <u>or</u> have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA protective action guidelines exposure levels outside the EXCLUSION AREA BOUNDARY. (Refer to Figure 4-C on preceding page.)**
SITE AREA	All	**Events are in process <u>or</u> have occurred which involve actual <u>or</u> likely major failures of plant functions needed for the protection of the public. Any releases are NOT expected to result in exposure levels which exceed EPA protective action guideline exposure levels outside the EXCLUSION AREA BOUNDARY. (Refer to Figure 4-C on preceding page.)**
ALERT	All	**Events are in process <u>or</u> have occurred which involve an actual <u>or</u> potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the EPA protective action guideline exposure levels.**
UNUSUAL EVENT	All	**Unusual events are in process <u>or</u> have occurred which indicate a potential degradation of the level of safety of the plant. No releases of radioactive material requiring offsite response <u>or</u> monitoring are expected unless further degradation of safety systems occurs.**

Table 4-3
EQUIPMENT REQUIRED AT SHUTDOWN PANEL

One Auxiliary Feedwater Pump
One Atmospheric Steam Dump
One Charging Pump
One Boric Acid Pump and Boration Valve
2CHS*FCV122

Table 4-4
SECURITY EVENTS

a. **SABOTAGE/INTRUSION** has <u>or</u> is Occurring Within the **PROTECTED AREA** (Figure 4-A)

b. **HOSTAGE/EXTORTION** Situation That Threatens to Interrupt Plant Operations

c. **CIVIL DISTURBANCE** Ongoing Between the **SITE PERIMETER** and **PROTECTED AREA** (Figure 4-A)

d. Hostile **STRIKE ACTION** Within the **PROTECTED AREA** Which Threatens to Interrupt Normal Plant Operations (Judgement Based on Behavior of Strikers <u>and/or</u> Intelligence Received) (Figure 4-A)

e. A credible site-specific security threat notification.

4.5. 4.6. 4.7. Table 4-3. Table 4-4

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition *(i.e., the basis of the declaration)*. All classifications are based on an assessment *(i.e., determination that the condition is VALID)* by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

CRITICAL SAFETY FUNCTION (CSFs): A plant safety function required to prevent significant release of core radioactivity to the environment. There are six CSFs: Subcriticality, Core Cooling, Heat Sink, Vessel Integrity *(Pressurized Thermal Shock)*, Integrity *(Containment)* and Inventory *(RCS)*.

EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i.e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

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The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

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VITAL AREA is 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

5.1, 5.2, FIGURE 5-A, TABLE 5-1 DESTRUCTIVE PHENOMENA - U2

	5.1 Earthquake		5.2 Tornado	
	Mode	Criterion / Indicator	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 1 "Fission Product Barrier Matrix"*		*Refer to Tab 1 "Fission Product Barrier Matrix"*
SITE AREA		*Refer to Tab 1 "Fission Product Barrier Matrix"*		*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT	All	**Earthquake greater than 0.06g acceleration occurs** *[1 and 2]* 1. A seismic event has occurred as indicated by Ann A10-5H "Init of Seismic Exceed Preset and/or Spectral Accelerations" 2. *[a and b]* a. One or more alarm lamps and horn energized on the Seismic Warning panel [2ERS-ANN-1] b. Review of the printout on 2ERS-RSA-1 Response Spectrum Analyzer reveals an acceleration >0.06g has occurred (see 2OM-45.4F *"Seismic Instrumentation Central Control Cabinet [2ERS-CCC-1] Running")* *Also refer to AOP 1/2.75.3 "Acts of Nature-Earthquake"*	All	**Tornado <u>or</u> high wind strikes any structure listed in Table 5-1 and results in structural damage** *[1 and 2]* 1. Tornado <u>or</u> high wind strikes any structure listed in Table 5-1 2. *[a or b]* a. Confirmed report of any **VISIBLE DAMAGE** to specified structures b. Control room indications of degraded safety system <u>or</u> component response within listed structures due to event
UNUSUAL EVENT	All	**Earthquake detected by site seismic instrumentation >0.01g acceleration** *[1 and 2]* 1. Ann A10-5H "Init of Seismic Exceed Preset and/or Spectral Accelerations" indicates initiation of the Accelerograph Recording System 2. *[a or b]* a. Ground motion sensed by plant personnel b. Unit 1 reports seismic event detected on unit instrumentation	All	**Tornado within the SITE PERIMETER** 1. Plant personnel report a tornado has been sighted within the **SITE PERIMETER** (refer to Figure 5-A)

Figure 5-A
Site Perimeter

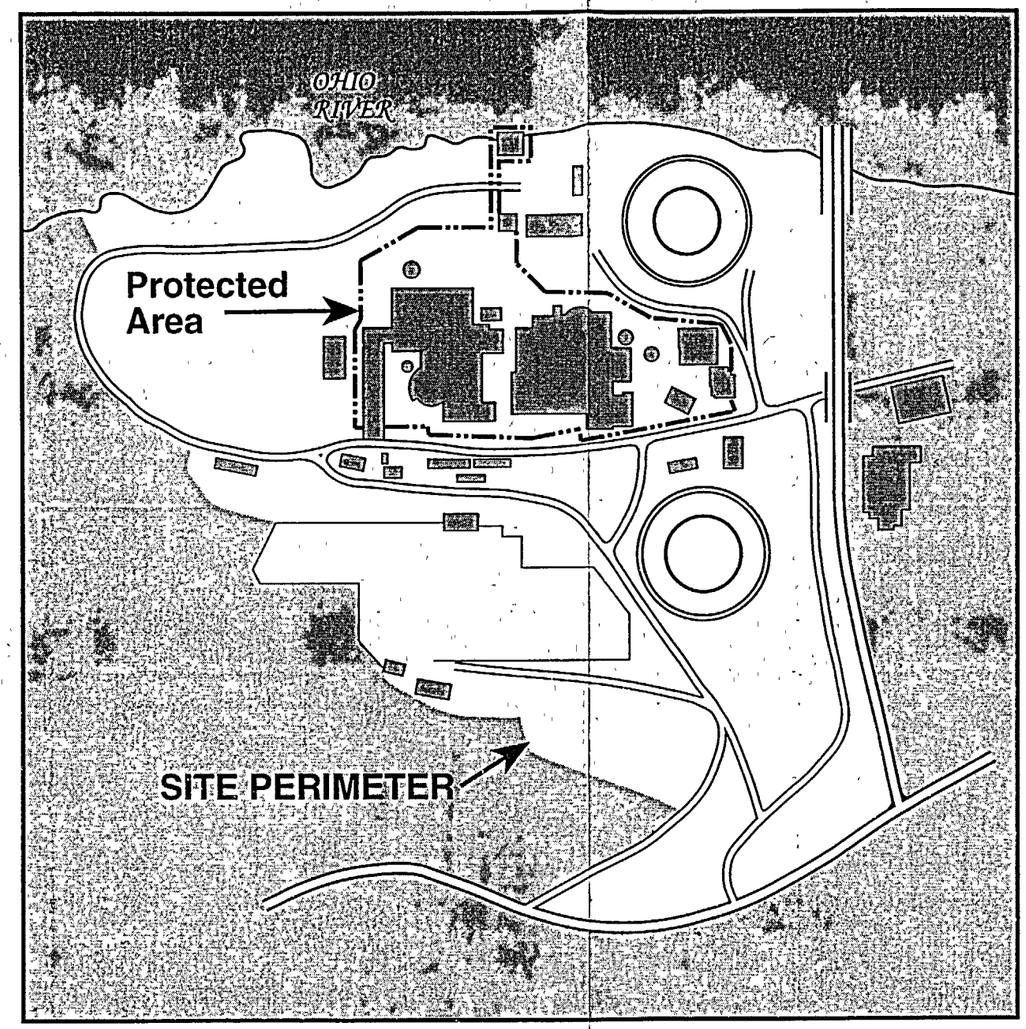

Table 5-1
Plant Structures Associated With
Tornado/Hi Wind and Aircraft EALs

Containment Building	Control Bldg
Safeguards Building	Cable Vault and Rod Control Bldg
Primary Aux. Building	Main Steam Valve Room
Fuel Handling Building	Main Intake Structure
RWST (2QSS-TK21)	Demin. Water Sto. (2FWE-TK-210)
24 ton CO2 unit	Diesel Generator Building
Service Building (incl. FW Reg Vlv Rm)	

DEFINITIONS/ACRONYMS

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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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

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INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded.

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PROJECTILE: An object ejected, thrown, or launched towards a plant structure. The source of the projectile may be onsite or offsite. Potential for damage is sufficient to cause concern regarding the integrity of the affected structure or the operability or reliability of safety equipment contained therein.

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RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge.

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A.

STRIKE ACTION: A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on the BVPS or one of its vendors. The STRIKE ACTION must threaten to interrupt normal plant operations to be considered.

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

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.

With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases, unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e.g , alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank).

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 indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment (i.e., within 15 minutes).

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 includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

VITAL AREA is 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

DESTRUCTIVE PHENOMENA - U2

5.3 Aircraft/Projectile Crash

Mode	Criterion / Indicator
GENERAL	*Refer to Tab 1 "Fission Product Barrier Matrix"*
SITE AREA	*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT ALL	**Aircraft or PROJECTILE impacts (strikes) any plant structure listed in Table 5-1 resulting in structural damage** *[1 and 2]* 1. Plant personnel report aircraft <u>or</u> **PROJECTILE** has impacted any structure listed in Table 5-1 on previous page 2. *[a or b]* a. Confirmed report of any **VISIBLE DAMAGE** to specified structures b. Control Room indications of degraded safety system <u>or</u> component response (within listed structures) due to event
UNUSUAL EVENT ALL	**Aircraft crash or PROJECTILE impact within the SITE PERIMETER** 1. Plant personnel report aircraft crash <u>or</u> **PROJECTILE** impact within the **SITE PERIMETER** (refer to Figure 5-A on previous page)

5.4 River Level HIGH

Mode	Criterion / Indicator
GENERAL	*Refer to Tab 1 "Fission Product Barrier Matrix"*
SITE AREA	*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT ALL	**River water level > 705 Ft mean sea level** *[1 or 2]* 1. 1LR-CW-101, <u>if</u> accessible, indicates >705 mean sea level 2. National Weather Bureau (412-644-2882) <u>or</u> Montgomery Lock (724-643-8400) reports Montgomery Lower Pool stage height >52.48 Ft *Note: Mean Sea Level = stage height + 652 52Ft*
UNUSUAL EVENT ALL	**River water level >700 Ft Mean Sea Level** *[1 or 2]* 1. 1LR-CW-101 indicates > 700 Ft Mean Sea Level 2. National Weather Bureau (412-644-2882) <u>or</u> Montgomery Lock (724-643-8400) reports Montgomery Lower Pool stage height >47.48 Ft *Note: Mean Sea Level = stage height + 652.52 Ft*

5.5 River Level LOW

Mode	Criterion / Indicator
GENERAL	*Refer to Tab 1 "Fission Product Barrier Matrix"*
SITE AREA	*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT ALL	**River water level <648.6 Ft Mean Sea Level** *[1 or 2]* 1. 1LR-CW-101 indicates <648.6 Ft Mean Sea Level 2. National Weather Bureau (412-644-2882) or Montgomery Lock (724-643-8400) Reports Montgomery Lower Pool stage height < -3.92 Ft *Note: Mean Sea Level = stage height + 652.52 Ft*
UNUSUAL EVENT	*Not Applicable*

5.6 Watercraft Crash

Mode	Criterion / Indicator
GENERAL	*Refer to Tab 1 "Fission Product Barrier Matrix".*
SITE AREA	*Refer to Tab 1 "Fission Product Barrier Matrix"*
ALERT	*Refer to Tab 1 "Fission Product Barrier Matrix"*
UNUSUAL EVENT ALL	**Watercraft strikes primary intake structure and results in a reduction of Service Water flow** *[1 and 2]* 1. Plant personnel report a watercraft has struck the primary intake structure 2. SWS flow reduction indicated by sustained pressure reduction to <30 psig on 2SWS-PI-113A and/or 113B *Refer to AOP 2.30 1 "Loss of Service Water"*

5.3. 5.4. 5.5. 5.6

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition (*i.e., the basis of the declaration*). All classifications are based on an assessment (*i.e., determination that the condition is VALID*) by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

CRITICAL SAFETY FUNCTION (CSFs): A plant safety function required to prevent significant release of core radioactivity to the environment. There are six CSFs: Subcriticality, Core Cooling, Heat Sink, Vessel Integrity *(Pressurized Thermal Shock)*, Integrity *(Containment)* and Inventory *(RCS)*.

EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A.

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i.e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded.

INEFFECTIVE: The specified restoration action(s) does not result in a reduction in the level of severity of the RED PATH condition within 15 minutes from identification of the Core Cooling CSF Status Tree RED PATH TERMINUS. A reduction in the level of severity is an improvement in the applicable parameters (e.g., increasing trend in reactor vessel water level (RVLIS full range) and/or decreasing trend on core thermocouple temperatures).

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

PROJECTILE: An object ejected, thrown, or launched towards a plant structure. The source of the projectile may be onsite or offsite. Potential for damage is sufficient to cause concern regarding the integrity of the affected structure or the operability or reliability of safety equipment contained therein.

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SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

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With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases, unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e.g., alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank).

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 indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment (i.e., within 15 minutes).

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SHUTDOWN SYSTEMS DEGRADATION - U2

6.1 Loss of Shutdown Systems

Mode	Criterion / Indicator
GENERAL	*Refer to Tab 7.1 "Gaseous Effluents"*
SITE AREA	*Refer to Tab 7.1 "Gaseous Effluents"*
ALERT 5 6	**Inability to maintain unit in cold shutdown** *[1 and 2]* 1. **UNPLANNED** Loss of RHS <u>or</u> CCP <u>or</u> SWS 2. *[a or b or c]* a. Core exit thermocouples (CETC) (if available) indicate the temperature has increased >10 F <u>and</u> has exceeded 200F. b. (w/RHS in service) RHS inlet temperature has increased >10 F <u>and</u> has exceeded 200 F. c. (w/o CETCs or RHS), loss has exceeded 30 minutes or there is evidence of boiling in the Rx vessel.
UNUSUAL EVENT 5 6	**UNPLANNED loss of any function needed for cold shutdown that results in a core exit temperature increase of more than 10 F** *[1 and 2]* 1. **UNPLANNED** Loss of RHS <u>or</u> CCP <u>or</u> SWS 2. *[a or b or c]* a. Core exit thermocouples (CETC) (if available) indicate the temperature has increased >10 F b. (W/RHS in service) RHS inlet temperature has increased >10 F c. (w/o CETCs or RHS), loss has exceeded 15 minutes

6.2 RCS Inventory - Shutdown

Mode	Criterion / Indicator
GENERAL	*Refer to Tab 7.1 "Gaseous Effluents"*
SITE AREA 5 6	**Loss of water level in the reactor vessel that has <u>or</u> will uncover fuel in the reactor vessel** *[1 and 2]* 1. *[a or b]* a. Loss of RHS <u>or</u> CCP <u>or</u> SWS b. Loss of RCS Inventory with inadequate makeup 2. *[a and b]* a. Ops personnel report 2RCS-LI-102, LR-102 RCS level instrumentation (if available) in the Control Room indicates a level drop to 0 inches b. Other confirmed indications of fuel uncovery
ALERT	*Not Applicable*
UNUSUAL EVENT 5 6	**Loss of Reactor Coolant System Inventory with inadequate make-up** *[1 and 2]* 1. Ops personnel report 2RCS-LI-102, LR-102 RCS level instrumentation in the Control Room indicates a level drop to less than 14 5 inches 2. Ops personnel report inability to make-up RCS inventory

6.3 Loss of AC (Shutdown)

Mode	Criterion / Indicator
GENERAL	*Refer to Tab 7.1 "Gaseous Effluents"*
SITE AREA	*Refer to Tab 7.1 "Gaseous Effluents"*
ALERT 5 6 De-Fuel	**UNPLANNED loss of offsite <u>and</u> onsite AC power for >15 minutes** 1. AE <u>and</u> DF 4KV emergency buses not energized from Unit 2 sources for >15 minutes *Also refer to Tab 6.1 "Loss of Shutdown Systems"*
UNUSUAL EVENT 5 6 De-Fuel	**UNPLANNED loss of all offsite power for >15 minutes** *[1 and 2]* 1. 2A <u>and</u> 2D 4KV normal buses de-energized for >15 minutes 2. Either diesel generator is supplying power to its respective emergency bus

6.4 Loss of DC (Shutdown)

Mode	Criterion / Indicator
GENERAL	*Refer to Tab 7.1 "Gaseous Effluents"*
SITE AREA	*Refer to Tab 7.1 "Gaseous Effluents"*
ALERT	*Refer to Tab 6.1 "Loss of Shutdown Systems"*
UNUSUAL EVENT 5 6 De-Fuel	**UNPLANNED loss of the required train of DC power for >15 minutes** *[1 or 2]* 1. Voltage <110.4 VDC on DC buses 2-1 <u>and</u> 2-3 for >15 minutes if train A is the priority train 2. Voltage <110.4 VDC on DC buses 2-2 <u>and</u> 2-4 for >15 minutes if train B is the priority train

6.1, 6.2, 6.3, 6.4

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition (*i.e., the basis of the declaration*). All classifications are based on an assessment (*i.e., determination that the condition is VALID*) by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

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EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100. Refer to Figure 7-A.

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

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SHUTDOWN SYSTEMS DEGRADATION - U2

6.5, 6.6

	6.5 Fuel Handling		6.6 Inadvertent Criticality	
	Mode	Criterion / Indicator	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 7.1 "Gaseous Effluents"*		*Refer to Tab 7.1 "Gaseous Effluents"*
SITE AREA		*Refer to Tab 7.1 "Gaseous Effluents"*		*Refer to Tab 7.1 "Gaseous Effluents"*
ALERT	ALL	**Major damage to irradiated fuel; <u>or</u> loss of water level that has <u>or</u> will uncover irradiated fuel outside the reactor vessel** *[1 and 2]* 1. **VALID** HIGH alarm on 2RMF-RQ202 [1031], 2HVR-RQ104A/B [1024, 1028], 2RMF-RQ301A/B [1032, 2032], <u>or</u> 2RMR-RQ203 [1025] 2. *[a or b]* a. Plant personnel report damage of irradiated fuel sufficient to rupture fuel rods b. Plant personnel report water level drop has <u>or</u> will exceed available makeup capacity such that irradiated fuel will be uncovered *Refer to Tab 6.2 for In-vessel Uncovery*	3 4 5 6	**Inadvertent reactor criticality** 1. Nuclear instrumentation indicate unanticipated sustained positive startup rate
UNUSUAL EVENT	ALL	**UNPLANNED loss of water level in spent fuel pool or reactor cavity or transfer canal with fuel remaining covered** *[1 and 2 and 3]* 1. Plant personnel report water level drop in spent fuel pool <u>or</u> reactor cavity, <u>or</u> transfer canal 2. **VALID** HIGH alarm on 2RMR-RQ203 [1025] <u>or</u> 2RMF-RQ-202 [1031] 3. Fuel remains covered with water		*Not Applicable*

INTENTIONALLY BLANK

DEFINITIONS/ACRONYMS

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BOMB: A fused explosive device (See EXPLOSION)

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	7.1 Gaseous Effluents		7.2 Liquid Effluents	
	Mode	Criterion / Indicator	Mode	Criterion / Indicator
GENERAL	All	**EAB dose resulting from an actual or imminent Release of gaseous radioactivity that exceeds 1000 mR TEDE or 5000 mR child thyroid CDE for the actual or projected duration of the release** *[1 or 2 or 3]* 1. A **VALID** gas effluent rad monitor reading exceeds the values in Column 4 of Table 7-1 for >15 minutes, unless dose projections within this time period confirms that the **CRITERION** is NOT exceeded 2. Field survey results indicate EAB dose >1000 mR β-γ for the actual or projected duration of the release 3. EPP dose projection results indicate EAB dose >1000 mR TEDE or >5000 mR child thyroid CDE for the actual or projected duration of the release		*Not Applicable*
SITE AREA	All	**EAB dose resulting from an actual or imminent release of gaseous radioactivity that exceeds 100 mR TEDE or 500 mR child thyroid CDE for the actual or projected duration of the release** *[1 or 2 or 3]* 1. A **VALID** gas effluent rad monitor reading exceeds the values in Column 3 of Table 7-1 for >15 minutes, unless dose projections within this time period confirms that the **CRITERION** is NOT exceeded 2. Field survey results indicate EAB dose >100 mR β-γ for the actual or projected duration of the release 3. EPP dose projection results indicate EAB dose >100 mR TEDE or >500 mR child thyroid CDE for the actual or projected duration of the release		*Not Applicable*
ALERT	All	**Any UNPLANNED release of gaseous radioactivity that exceeds 200 times Technical Specification 6.8.6a/Offsite Dose Calculation Manual Limit for 15 minutes** *[1 or 2 or 3]* 1. A **VALID** gas effluent rad monitor reading exceeds the values in Column 2 of Table 7-1 for >15 minutes, unless dose projections within this time period confirms that the **CRITERION** is NOT exceeded 2. Field survey results indicate >10 mR/hr β-γ at the EAB for >15 minutes 3. EPP dose projection results indicate EAB dose >10 mR TEDE for the duration of the release	All	**Any UNPLANNED release of liquid radioactivity that exceeds 200 times Technical Specification 6.8.6a/Offsite Dose Calculation Manual Limit for 15 minutes** *[1 or 2]* 1. A **VALID** liquid effluent rad monitor reading exceeds the values in Column 2 of Table 7-1 for >15 minutes, unless dose projections within this time period confirms that the **CRITERION** is NOT exceeded 2. Sample results exceed 200 times Technical Specification 6 8.6a/Offsite Dose Calculation Manual Limit for an unmonitored release of liquid radioactivity >15 minutes in duration
UNUSUAL EVENT	All	**Any UNPLANNED release of gaseous radioactivity that exceeds 2 times Technical Specification 6.8.6a/Offsite Dose Calculation Manual Limit for 60 minutes** *[1 or 2 or 3]* 1. A **VALID** gas effluent rad monitor reading exceeds the values in Column 1 of Table 7-1 for >60 minutes, unless dose projections within this time period confirms that the **CRITERION** is NOT exceeded 2. Field survey results indicate >0 1 mR/hr β-γ at the EAB for >60 minutes 3. EPP dose projection results indicate EAB dose >0.1 mR TEDE for the duration of the release		**Any UNPLANNED release of liquid radioactivity to the environment that exceeds 2 times Technical Specification 6.8.6a/Offsite Dose Calculation Manual Limit for 60 minutes** *[1 or 2]* 1. A **VALID** liquid effluent rad monitor reading exceeds the values in Column 1 of Table 7-1 for >60 minutes, unless dose projectionswithin this time period confirms that the **CRITERION** is NOT exceeded 2. Sample results exceed 2 times the Technical Specification 6.8 6a/Offsite Dose Calculation Manual Limit for an unmonitored release of liquid radioactivity >60 minutes in duration

TABLE 7-1
EFFLUENT RADIATION MONITOR EALS

NOTE: The values below, if exceeded, indicate the need to perform the specified dose projection/assessment, as listed at the bottom of each column. If the assessment can not be completed within 15 minutes (60 minutes for UE), the declaration shall be made based on the VALID reading.

* NOTE: These monitors have the ability to divert or terminate effluent flow. Ensure that a release is in progress prior to using the EAL's.

	Column 1 UE		Column 2 Alert		Column 3 Site		Column 4 General	
If a RWDA (Batch Release) is Applicable	**2x the ODCM Limit**		**200x the ODCM Limit**					
* 2SGC-RQ100 [1065]	2.28E-03	uCi/ml	n/a	uCi/ml	n/a	uCi/ml	n/a	uCi/ml
2HVS-RQ101B [2039] RBC Purge	1.48E-04	uCi/cc	1.48E-02	uCi/cc	n/a	uCi/cc	n/a	uCi/cc
2HVS-RQ109B LR [2040] RBC Purge	6.36E-04	uCi/cc	6.36E-02	uCi/cc	n/a	uCi/cc	n/a	uCi/cc
2HVS-RQ109B Eff [5040] RBC Purge	2.26E+03	uCi/sec	2.26E+05	uCi/sec	n/a	uCi/sec	n/a	uCi/sec
* RM-1GW-108B (GWST)	7.86E+05	cpm	n/a	cpm	n/a	cpm	n/a	cpm
RM-1GW-109 Channel 5 (GWST)	n/a	cpm	n/a	cpm	n/a	cpm	n/a	cpm
For All Other Unplanned Releases	**2x the ODCM Limit**		**200x the ODCM Limit**					
SLCRS Unfiltered Pathway (also called Ventilation Vent)								
2HVS-RQ101B [2039]	6.02E-04	uCi/cc	6.02E-02	uCi/cc	1.72E-01	uCi/cc	n/a	uCi/cc
SLCRS Filtered Pathway (also called Elevated Release)								
2HVS-RQ109B LR [2040]	2.12E-04	uCi/cc	2.12E-02	uCi/cc	n/a	uCi/cc	n/a	uCi/cc
2HVS-RQ109B MR [3040]	n/a	uCi/cc	n/a	uCi/cc	3.88E-02	uCi/cc	3.88E-01	uCi/cc
2HVS-RQ109B HR [4040]	n/a	uCi/cc	n/a	uCi/cc	3.88E-02	uCi/cc	3.94E-01	uCi/cc
2HVS-RQ109B Eff [5040]	5.88E+03	uCi/sec	5.88E+05	uCi/sec	1 04E+06	uCi/sec	1.04E+07	uCi/sec
Decontamination Building Vent								
* 2RMQ-RQ301B [2033]	6.30E-03	uCi/cc	n/a	uCi/cc	n/a	uCi/cc	n/a	uCi/cc
Waste Gas Storage Vault Vent								
* 2RMQ-RQ303B [2037]	5.16E-02	uCi/cc	n/a	uCi/cc	n/a	uCi/cc	n/a	uCi/cc
Condensate Polishing Building Vent								
* 2HVL-RQ112B [2013]	3.22E-03	uCi/cc	3 22E-01	uCi/cc	n/a	uCi/cc	n/a	uCi/cc
Main Steam Reliefs								
2MSS-RQ101A/101B/101C [1005/3005/5005]	n/a	uCi/cc	n/a	uCi/cc	1.77E-01	uCi/cc	1.77E-01	uCi/cc
2MSS-RQ101A/101B/101C Eff [2005/4005/6005]	n/a	uCi/sec	n/a	uCi/sec	5.10E+05	uCi/sec	5.10E+06	uCi/sec
Liquid Effluent Pathways								
* 2SGC-RQ100 [1065]	2.28E-03	uCi/ml	n/a	uCi/ml	n/a	uCi/ml	n/a	uCi/ml
2SWS-RQ101 [1068]	8.59E-05	uCi/ml	8.59E-03	uCi/ml	n/a	uCi/ml	n/a	uCi/ml
2SWS-RQ102 [1067]	8.59E-05	uCi/ml	8.59E-03	uCi/ml	n/a	uCi/ml	n/a	uCi/ml

DEFINITIONS/ACRONYMS

ALERT, UNUSUAL EVENT, GENERAL EMERGENCY, SITE AREA EMERGENCY: See EAL 4.7

BOMB: A fused explosive device (See EXPLOSION)

CIVIL DISTURBANCE: A group of ten (10) or more persons violently protesting station operations or activities at the site.

Each **CRITERION** identifies the emergency condition and any numeric values which define that condition (*i.e., the basis of the declaration*). All classifications are based on an assessment (*i.e., determination that the condition is VALID*) by the Emergency Director that the CRITERION has been met or exceeded. Implicit in this protocol is the necessity for these assessments to be completed within 15 minutes (unless otherwise noted) of indications being available to Control Room operators that an Emergency Action Level (EAL) has been exceeded.

CRITICAL SAFETY FUNCTION (CSFs): A plant safety function required to prevent significant release of core radioactivity to the environment. There are six CSFs: Subcriticality, Core Cooling, Heat Sink, Vessel Integrity *(Pressurized Thermal Shock)*, Integrity *(Containment)* and Inventory *(RCS)*.

EXCLUSION AREA BOUNDARY (EAB): A boundary surrounding the BVPS units beyond which the postulated UFSAR accidents will not result in population doses exceeding the criteria of 10 CFR Part 100 Refer to Figure 7-A.

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

EXTORTION: An attempt to cause an action at the station by threat of force.

FAULTED: (Steam Generator) Existence of secondary side leakage (i.e., steam or feed line rupture) that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

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 flame is preferred but is NOT required if large quantities of smoke and heat are observed.

HOSTAGE: A person or object held as leverage against the station to ensure that demands will be met by the station

INDICATOR(s): Are available via instrumentation, calculations, procedure Entry (AOPs, EOPs, etc.), operator knowledge of plant conditions (pressure, temperatures, etc.) in the Control Room, or reports received from plant personnel, whichever is most limiting, or other evidence that the associated criterion may be exceeded. Inherent in this protocol is the necessity for these assessments to be completed with 15 minutes (unless otherwise noted) of sufficient indications being available to Control Room Operators that an Emergency Action Level (EAL) has been exceeded.

INEFFECTIVE: The specified restoration action(s) does not result in a reduction in the level of severity of the RED PATH condition within 15 minutes from identification of the Core Cooling CSF Status Tree RED PATH TERMINUS. A reduction in the level of severity is an improvement in the applicable parameters (e.g., increasing trend in reactor vessel water level (RVLIS full range) and/or decreasing trend on core thermocouple temperatures).

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

LOWER EXPLOSIVE LIMIT (LEL): Concentration level below which combustible gases will not explode due to ignition.

LCO, LIMITING CONDITION FOR OPERATION: as specified in the BVPS Technical Specifications, the minimum functional performance level for equipment required for safe shutdown.

ORANGE PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under severe challenge.

PROJECTILE: An object ejected, thrown, or launched towards a plant structure. The source of the projectile may be onsite or offsite. Potential for damage is sufficient to cause concern regarding the integrity of the affected structure or the operability or reliability of safety equipment contained therein.

The **PROTECTED AREA** encompasses all owner controlled areas within the security perimeter fence as shown on Figure 4-A.

RED PATH: Monitoring of one or more CSFs by the EOPs which indicates that a CSF is under extreme challenge.

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

SABOTAGE: Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment unavailable.

SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) Automatic turbine runback >25% thermal reactor power, (2) Electrical load rejection >25% full electrical load; (3) Reactor Trip; (4) Safety Injection System Activation

The **SITE PERIMETER** encompasses all owner controlled areas in the immediate site environs as shown on Figure 4-A.

STRIKE ACTION: A work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on the BVPS or one of its vendors. The STRIKE ACTION must threaten to interrupt normal plant operations to be considered.

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

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.

With specific regard to radioactivity releases, a release of radioactivity is **UNPLANNED** if it has not been authorized by a Radioactive Waste Discharge Authorization (RWDA). Implicit in this definition are unintentional releases, unmonitored releases, or planned releases that exceed a condition specified on the RWDA (e.g., alarm setpoints, minimum dilution flow, minimum release times, maximum release rates, and/or discharge of incorrect tank).

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 indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment (i.e., within 15 minutes).

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 includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

VITAL AREA is 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

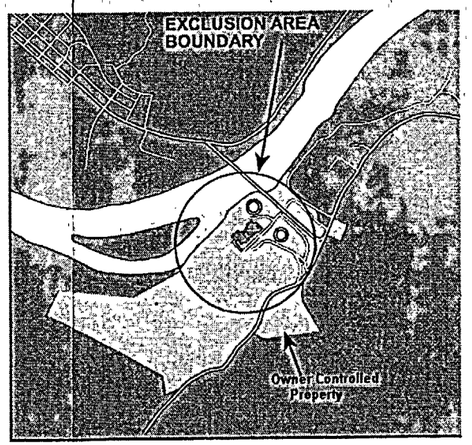
	7.3 Radiation Levels	
	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 1 "Fission Product Barrier Matrix" or Tab 7.1 "Gaseous Effluents"*
SITE AREA		*Refer to Tab 1 "Fission Product Barrier Matrix" or Tab 7.1 "Gaseous Effluents"*
ALERT	All	**UNPLANNED increases in radiation levels within the facility that impedes safe operations <u>or</u> establishment <u>or</u> maintenance of cold shutdown** *[1 or 2]* 1. **VALID** area radiation monitor readings <u>or</u> survey results exceed 15 mR/hr in the Control Room 2RMC-RQ201/202 [1069/1072] or PAF 2RMS-RQ223 [1071] for >15 minutes 2. *[a and b]* a. **VALID** area radiation monitor readings or survey results exceed values listed in Table 7-2 b. Access restrictions impede operation of systems necessary for safe operation or the ability to establish or maintain cold shutdown *See Note Below*
UNUSUAL EVENT	All	**UNPLANNED increase in radiation levels within the facility** 1. **VALID** area radiation monitor readings increase by a factor of 1000 over normal levels for >15 minutes *Note: In either the UE or ALERT EAL, the ED must determine the cause of increase in radiation levels and review other* ***CRITERIA/INDICATORS*** *for applicability (e.g., a dose rate of 15 mR/hr in the Control Room could be caused by a release associated with a more significant event)*

	7.4 Fuel Handling	
	Mode	Criterion / Indicator
GENERAL		*Refer to Tab 7.1 "Gaseous Effluents"*
SITE AREA		*Refer to Tab 7.1 "Gaseous Effluents"*
ALERT	All	**Major damage to irradiated fuel; <u>or</u> loss of water level that has <u>or</u> will uncover irradiated fuel outside the reactor vessel** *[1 and 2]* 1. **VALID** HIGH alarm on 2RMR-RQ203 [1025] or 2RMF-RQ202 [1031] or 2RMF-RQ301 A/B [1032/2032] or 2HVR-RQ104A/B [1024/1028] 2. *[a or b]* a Plant personnel report damage of irradiated fuel sufficient to rupture fuel rods b. Plant personnel report water level drop has <u>or</u> will exceed available makeup capacity such that irradiated fuel will be uncovered *Refer to Tab 6 "Shutdown Systems" for In-vessel Uncovery*
UNUSUAL EVENT	All	**UNPLANNED loss of water level in spent fuel pool or reactor cavity or transfer canal with fuel remaining covered** *[1 and 2 and 3]* 1. Plant personnel report water level drop in spent fuel pool <u>or</u> reactor cavity, <u>or</u> transfer canal 2. **VALID** HIGH alarm on 2RMR-RQ203 [1025] or 2RMF-RQ202 [1031] 3. Fuel remains covered with water

Table 7-2
Areas Associated With EAL 7.3

LOCATION	INDICATOR	READING
730' Service Bldg (H2 Analyzers)	Survey Results	>100 mR/hr general area
PASS Cubicle (735' PAB)	RMP-RQ-204 [1050]	>100 mR/hr general area
Chem Sample Panel (718' PAB)	RMP-RQ-210 [1059]	>100 mR/hr general area
737' Safeguards (H2 Control System Operations)	RMP-RQ-205A,B [1049]	>100 mR/hr general area
741' Safeguards (Safe Shutdown Valves)	Survey Results	>100 mR/hr general area
738'Cable Vault (RHR Suction Valves)	Survey Results	>100 mR/hr general area
773' PAB (WRGM Sampling)	Survey Results	>100 mR/hr general area
788' Main Steam & Cable Vault	Survey Results	>100 mR/hr general area
Alternate Shutdown Panel Room	Survey Results	>100 mR/hr general area
West Cable Vault (730')	Survey Results	>100 mR/hr general area
A Penetrations (713')	Survey Results	>5 R/hr general area
C&D Penetrations (718')	Survey Results	>100 mR/hr general area
Cable Vault (755')	Survey Results	>100 mR/hr general area
CNMT Instr Air Room (773')	Survey Results	>100 mR/hr general area
AE/DF Switchgear	Survey Results	>100 mR/hr general area
Turbine Bldg 735' West	Survey Results	>100 mR/hr general area
EDG 2-1, 2-2	Survey Results	>5 R/hr general area

Figure 7-A
EXCLUSION AREA BOUNDARY



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Beaver Valley Power Station

Unit 1/2

EPP-IP-2.2

ONSITE MONITORING FOR AIRBORNE RELEASE

Document Owner
Manager, Emergency Preparedness

Revision Number	11
Level Of Use	General Skill Reference
Safety Related Procedure	Yes

CONTROLLED
BVPS UNIT 3

EFFECTIVE INDEX

Issue 8 Rev.	0	OSC Approved	3-12-87
Issue 9 Rev.	0	Non-Intent Revision	10-9-90
	1	Non-Intent Revision	8-30-91
	2	Non-Intent Revision	12-29-92
Rev.	5	Non-Intent Revision	1-1-94
Rev.	6	Non-Intent Revision	10-7-94
Rev.	7	Non-Intent Revision	3-27-97
Rev.	8	Non-Intent Revision	12-30-98
Rev.	9	Non-Intent Revision	12-31-99
Rev.	10	Non-Intent Revision	8-8-01
Rev.	11	Simple Change	10-17-02

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D. Action Levels/Precautions

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A. PURPOSE

This procedure provides instructions to monitoring team personnel for performing onsite radiological monitoring in the event of an airborne release of radioactive material. In-plant radiological surveys are performed in accordance with the Radiation Protection procedures, and at the direction of the Radiological Controls Coordinator.

Onsite plume monitoring can be requested by either the Radiological Controls Coordinator (RCC), EA & DP Coordinator, or the Emergency Director. If onsite monitoring is at the request of the RCC, these teams are directed by and communicate through the OSC. If onsite monitoring is at the request of the EA & DP Coordinator, the teams are directed by EA & DP and communicate thru those personnel at the TSC/EOF. Onsite plume monitoring teams may be directed to complete some or all of the surveys described herein. Monitoring teams need only perform the applicable steps of this procedure.

B. REFERENCES

1.0 Beaver Valley Power Station Emergency Implementing Procedure EPP/IP 2.1, "Emergency Radiological Monitoring"

2.0 Beaver Valley Power Station Health Physics Procedures

3.0 BVPS Unit 1 Licensing Commitment 2.C (7) (CATS A970524P)

4.0 Condition Report #00-2202
Condition Report #02-03808

C. RESPONSIBILITIES

1.0 OSC/TSC/EOF personnel (if activated) will determine the general path of the plume and will provide monitoring team members with a briefing on specific instructions on areas to survey, types of surveys, and requirements for protective clothing and respirators.

2.0 Monitoring team members must remain alert to their own exposure and notify the OSC, TSC or EA&DP, and request relief if their cumulative exposure approaches a limit.

3.0 The Emergency Director is the only individual who may authorize exposure limit extensions in excess of 10CFR20.

4.0 Monitoring team members will ensure appropriate monitoring equipment is operable and in calibration.

D. ACTION LEVELS/PRECAUTIONS

1.0 Monitoring team members shall read their dosimeters (pocket or electronic alarming dosimeter) and report the readings to the OSC, TSC, or EA&DP, at least every 30 minutes or when dosimeters have increased by 100 millirem or a dose alarm has been received.

2.0 Exposures are controlled in accordance with EPP/IP 5.3, "Emergency Exposure Criteria and Control".

2.1 The use of potassium iodide (KI) is controlled in accordance with EPP/IP 3.4, "Emergency Respiratory Protection", and EPP/IP 5.3, "Emergency Exposure Criteria and Control".

3.0 Monitoring teams must remain alert to their own exposure and request relief if their cumulative exposure approaches a BVPS administrative control level. The Emergency Director is the only individual who may authorize exposure limit extensions in excess of 10 CFR 20.

4.0 All radio communications shall be done observing standard radio protocol (Attachment 5).

5.0 Vehicles

5.1 Designated vehicles shall be used for monitoring team purposes. Personal vehicles shall generally not be used, unless no suitable vehicles are available. Owners volunteering the use of their personal vehicles shall be alerted to the fact that most insurance companies will deny any claim for damage due to radioactive contamination. In addition, any personal vehicles shall have the same level of liability insurance as company vehicles.

5.2 All monitoring equipment shall be stowed in the vehicle such that it will not effect the safe operation of the vehicle.

5.3 Monitoring team vehicles shall be operated in compliance with all motor vehicle laws, including speed limits and the use of seat belts.

5.4 Monitoring team vehicles shall meet the following criteria:

5.4.1 Enclosed vehicle with sufficient room for the monitoring kit and fixed seating, with seat belts, for all team members, and,

5.4.2 Operable cigarette lighter receptacle, and,

5.4.3 At least 1/2 tank of gas, and

5.4.4 Current State motor vehicle inspection sticker (if applicable).

5.4.5 If personal vehicle, ensure insurance is in effect, per requirements of Step 5.1.

6.0 During siren activation, Field Monitoring Teams will be instructed not to activate radio transmitters.

E. PROCEDURE

1.0 Preliminary Actions

1.1 If not already in their possession, team members shall obtain and don personal dosimetry.

1.2 Prior to proceeding to perform surveys obtain a pre-job brief. Use three-way communication to ensure briefing is understood.

> **NOTE:**
>
> The DC powered air-samplers require a 12-VDC source to operate. For this reason, a vehicle may be necessary, even though the distances involved are within walking distance.

1.3 If a vehicle is needed, obtain vehicle, vehicle location, and keys from TSC/OSC/EOF, as appropriate.

1.3.1 The vehicle must meet the requirements of Section D.5.0.

1.3.2 If a company vehicle cannot be obtained, a volunteered vehicle may be used if it meets the requirements of Section D.5.0.

1.4 Obtain appropriate monitoring equipment from the storage locations (Unit 1 Turbine Deck – 735' or Unit 2 SOSB West Stairwell – 730'). Equipment selected will depend on the type of survey assigned.

1.5 Perform operability checks on monitoring equipment before leaving the site, in accordance with instrument use procedure provided in the kit.

1.6 Obtain a Hi-band "Handie-Talkie" or a 60 Watt Monitoring Team Unit and check operation before leaving to start survey. Check radios away from the Control Room to minimize possible RF interference with instrument. Keep the radio operational at all times while performing surveys in order to maintain communications with the OSC /TSC/EOF.

1.7 If the survey will be performed outside of the security fence, leave the station via the Primary Access Facility (PAF). Retain your personal dosimetry while performing radiological monitoring.

1.8 Record gas tank level. Ensure that there is at least a 1/2 tank of gas and a cigarette lighter which is in proper working condition. Obtain another vehicle if necessary.

1.9 Install radio equipment on the vehicle if vehicle is being used.

1.10 If OSC /TSC/EOF so direct, don protective clothing and/or respirators prior to going to survey location.

1.11 Proceed to first survey location, as assigned by the OSC/TSC/EOF as follows:

2.0 Continuing Actions

NOTE:

Whenever possible, an ion-chamber instrument (such as the Eberline RO-series) should be used for making dose rate measurements. An instrument with an energy-compensated GM probe with the beta window closed (such as HP-270) is an acceptable substitute for gamma exposure measurements.

During an Unusual Event, monitoring team data shall be reported to the Radiological Controls Coordinator. For higher emergencies the TSC will be activated and plume monitoring data shall be reported to the EA & DP Coordinator in the TSC/EOF or OSC H.P. Coordinator, as appropriate. In-plant monitoring data shall be reported to the Radiological Controls Coordinator.

2.1 Periodically, read your pocket dosimeters, and have other personnel in the monitoring team read theirs. Report these readings at least every 30 minutes, or when accumulated dosimeter reading reaches 100 mrem.

2.2 Keep communication equipment on at all times.

2.3 Team members shall take appropriate actions to prevent the spread of detected contaminations to their skin, clothing, survey equipment and/or vehicle to the extent possible.

3.0 Moving Dose Rate

3.1 While enroute to the first assigned survey location, and at any other time while moving about the site, have the survey instrument turned on. Frequently observe the survey meter and report readings to the OSC/TSC/EOF, as appropriate. If a level of 1.0 millirem per hour (beta/gamma) or greater is observed, immediately notify the OSC/TSC/EOF. Note and record any readings significantly higher than the average and record these readings on the site map (Attachment 3). If in a vehicle, extend the instrument probe through an open window (weather permitting).

4.0 Stationary Dose Rate Survey

4.1 Hold the instrument probe parallel to, facing and about 3 feet (waist height) above the ground.

4.2 Take a closed window (gamma) reading. Allow sufficient time for the meter response to stabilize. Document the reading, in mR/hr on the EPP Survey Log (Attachment 1).

4.3 Take an open window (beta plus gamma) reading. Allow sufficient time for the meter response to stabilize. Document the reading, in mR/hr on the EPP Survey Log.

4.4 If there is no observable difference between the readings taken in 4.2 and 4.3 above, it should not be necessary to obtain an air sample at that particular location.

5.0 Airborne Activity

NOTE:

OSC/TSC personnel will determine which iodine sampling cartridge is appropriate. OSC/TSC personnel may also change the sample volume from 10 ft^3 to another volume consistent with radiological conditions.

NOTE:

If the open window dose rate measurement is about equal to the closed window reading, the survey location is not submerged in the plume and air samples will underestimate the plume concentration. Notify EA & DP if this is the case and request instructions.

NOTE:

If using a silver zeolite cartridge, verify that the shelf life has not expired.

5.1 Prepare sampler:

5.1.1 If not already present, mark a flow arrow on the side of the charcoal or silver zeolite cartridge.

5.1.1.1 OSC/TSC will direct which iodine sample media to use.

5.1.2 Place a clean particulate filter, and the iodine sample cartridge, in the sample holder and install on the sampler.

5.1.2.1 Air flow shall pass through the particulate paper first and then the cartridge in the direction of the arrow marked on the cartridge.

5.1.3 Position the sampler so that the intake is not in close proximity to potentially contaminated surfaces. Protect the filter paper and iodine cartridge from rain.

5.1.4 If the air sampler has an integral battery, proceed to Step D.5.2.

CAUTION:

In the steps to follow, use caution when connecting the air sampler power leads to the vehicle battery. Specifically:

- Shut car off, if not already done.
- Put on eye protection.
- Self check to determine positive and negative battery terminals.
- Avoid the fan, fan belt, and other potentially engine moving parts when positioning and connecting power leads.
- Avoid contact with battery acid corrosion residue.
- To minimize the potential for hydrogen explosion, do NOT connect or disconnect the sampler power leads while the sampler is turned on.
- Place the positive clamp of the air sampler on the positive battery terminal, the negative clamp on the air sampler on the negative battery terminal making sure that proper connections are made.

5.1.5 Connect the sampler to the vehicle battery.

5.2 Obtain the sample:

5.2.1 Turn on the sampler

5.2.2 Record the sample start time on an Air Sample Record Card (Attachment 4)

5.2.3 Read the flow rate, and determine the sampling time:

$$\frac{\text{Desired Volume } ft^3}{\text{Sample Flow Rate, cfm}} = \text{Sample Time, in minutes}$$

5.2.3.1 The desired sample volume is normally 10 ft^3, unless directed otherwise by OSC/TSC.

CAUTION:

- Turn off air sampler prior to removing air sampler power leads.
- Disconnect negative clamp.
- Disconnect positive clamp.

5.2.4 When the sample time has elapsed, stop the sampler and record the stop time on an Air Sample Record Card.

5.2.5 Complete other data requested on Air Sample Record Card. (Attachment 4)

5.3 Using the E140N or equivalent with a HP210 probe, obtain a background reading.

5.3.1 Check that the RESPONSE control is set for the slowest response. If instrument has a speaker, ensure it is turned on.

5.3.2 Position the probe over the location where the sample media will be counted.

5.3.3 Evaluate background count rate.

5.3.3.1 If the background exceeds 30,000 cpm, notify OSC/TSC and request clearance to move to an area of lower background.

5.3.4 Note and record the background count rate in Column 7 (in cpm) on the EPP Survey Log.

5.4 Perform field screening of the sample media.

CAUTION

Handle sample media in a manner that minimizes cross-contamination of sample media or the removal of activity from the sample media. As example:

Handle all sample media by the edges.

Place, do not slide, sample media into sample bags.

Do not shake sample bags, or squeeze sample bags together.

5.4.1 Remove the sample media from the sample holder.

5.4.2 Count the filter paper and the iodine cartridge separately.

5.4.2.1 Place the filter paper on a clean surface.

5.4.2.2 Hold the HP210 probe about 0.5 inches above the filter paper.

5.4.2.3 Record the gross instrument reading, in Column 5 (in cpm), on the EPP Survey Log.

5.4.2.4 Place the iodine sample cartridge on a clean surface, flow arrow pointing downward.

5.4.2.5 Hold the HP210 probe about 0.5 inches above the face of the sample cartridge.

5.4.2.6 Record the gross instrument reading, in Column 6 (in cpm), on the EPP Survey Log.

5.5 On the EPP Survey Log,

5.5.1 Record the sample volume in Column 8 (in cu ft),.

5.5.2 Circle the iodine sample type, if applicable, in Column 9.

5.5.3 Record the team member SRD readings in Columns 10 and 11. (in mR)

5.6 Place the samples in a plastic bag with the Air Sample Record Card. At the end of the survey return all samples, and EPP Survey Logs to the Station, or to another location designated by the OSC/TSC/EOF, for laboratory counting.

6.0 After all the required data have been collected at the first survey location, establish radio contact with the OSC/TSC/EOF and report the following data from the log sheet.

6.1 Survey point and time.

6.2 Closed window gamma exposure rate.

6.3 Open window beta plus gamma exposure rate.

6.4 Air sample volume.

6.5 Rate meter background count rate.

6.6 Rate meter gross counts for particulate sample.

6.7 Rate meter gross counts for radioiodine cartridge & type of cartridge used.

6.8 Closed window gamma exposure rates observed between survey points.

7.0 After reporting the survey data from the last survey point, request further instructions from the OSC/TSC/EOF.

8.0 Proceed to the next survey point and repeat steps 7 and 8 for each survey location.

F. FINAL CONDITIONS

1.0 All sample media are properly bagged, labeled and have been returned to the station for possible analysis.

2.0 All survey logs are complete, signed and returned to OSC/TSC, as appropriate.

G. ATTACHMENTS

1.0 EPP Survey Log
2.0 Air Sampling, Field Evaluation and Sample Assessment
3.0 BVPS Site Map
4.0 Air Sample Record Card
5.0 Radio Protocol

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ATTACHMENT 1 (1 of 1)

EPP SURVEY LOG

Field Monitoring Team Log

Gas Tank	Team	Route	Date
E F	1 2 3 4 ___ ONSITE / OFFSITE	5 mi 10 mi n/a NW NE SE SW n/a	

SURVEY POINT	TIME	Dose Rate, mR/hr CLOSED WINDOW	Dose Rate, mR/hr OPEN WINDOW	E140N Field Screening, cpm Gross Particulate	E140N Field Screening, cpm Gross Iodine	E140N Field Screening, cpm Background	Sample Volume cu. ft.	Cart. Type	Team SRDs mR Member #1	Team SRDs mR Member #2	Remarks
1	2	3	4	5	6	7	8	9	10	11	
								Sz/c			
								Sz/c			
								Sz/c			
								Sz/c			
								Sz/c			
								Sz/c			
								Sz/c			
								Sz/c			
								Sz/c			
								Sz/c			
								Sz/c			
								Sz/c			

Example

2-3-1f 3/90

Team Members (name and badge #)		Instrument Serial Numbers				Team Leader
#1	#2	B-G	E140N	Air Sampler	Other	Signature

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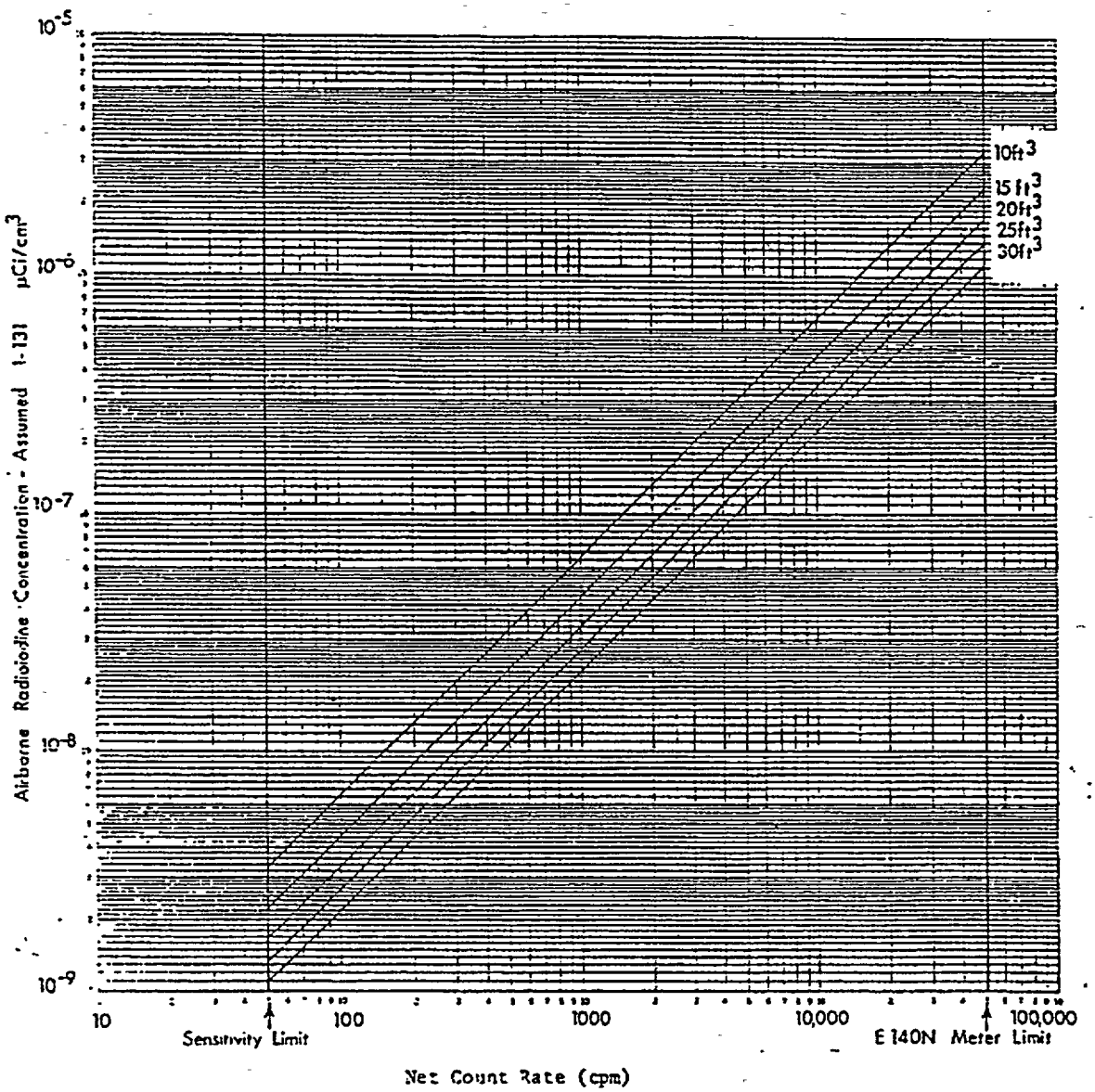
ATTACHMENT 2 (1 of 1)

AIR SAMPLING, FIELD EVALUATION AND SAMPLE ASSESSMENT

Airborne Radioiodine Concentration vs. Net Count Rate
(Charcoal or AgZe Cartridge)



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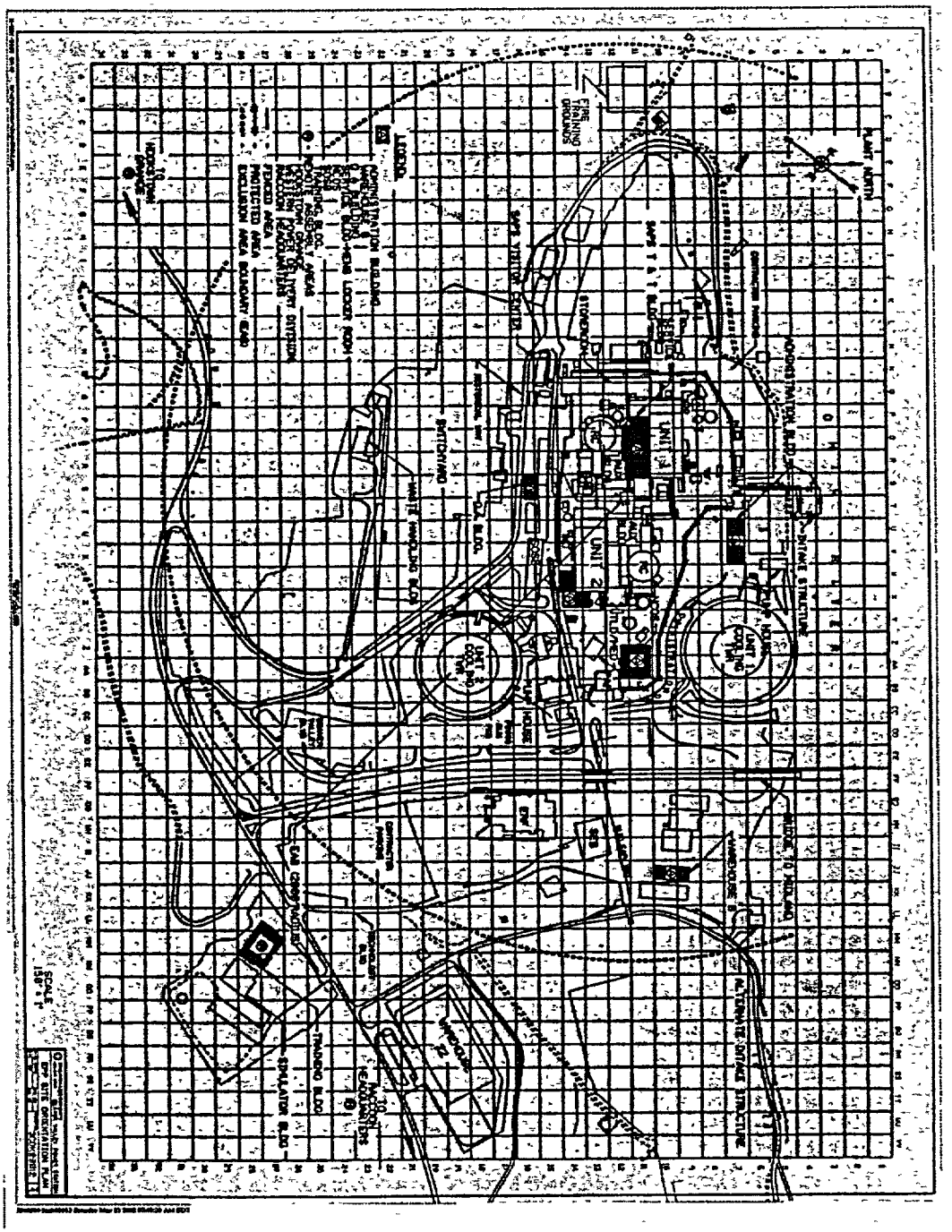
ATTACHMENT 3 (1 of 1)

BVPS SITE MAP


PLANT NORTH
UNIT 1
UNIT 2
UNIT 3
UNIT 4
UNIT 5
UNIT 6
INTAKE STRUCTURE
PATHWAY TO INTAKE STRUCTURE
WAREHOUSE
CONSTRUCTION BUILDING
CONSTRUCTION BUILDING
PARKING
TRAINING BLDG
SHELTER BLDG
SHOP
SHOP
SHOP

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ATTACHMENT 4 (1 of 1)

AIR SAMPLE RECORD CARD

AIR SAMPLE RECORD CARD RTL# A5.715EA

Air Sample locations: _____

Date: _____ Surveyor: _____

Sampler ID# _____

Sampler flow rate ft^3/min _____

Sample time: (10 ft^3 /Sampler Flow Rate cfm) _____

Sample Start Time: _____ Stop Time: _____

Sample Volume: _____

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ATTACHMENT 5 (1 of 2)

RADIO PROTOCOL

Because radio communications is one way at a time (unlike a telephone), the use of a standard protocol is necessary to minimize confusion, speed operation and insure accurate transfer of information.

1) Begin a transmission with the name of the receiving party followed by the name of the transmitting party. For example, "Beaver Valley EA & DP this is Field Monitoring Team One, over". Wait for the receiving party to acknowledge before relaying data. During a series of exchanges, terminate each transmission with "over" to indicate to the other person that they may transmit. End the final transmission of a series with an appropriate termination phrase. For example, "Monitoring Team One out".

2) Controlling group (EA & DP, OSC) communicators must avoid general statements such as, "Monitoring teams report your dosimeter readings". This can result in confusion due to simultaneous transmissions by two or more teams. Direct such inquiries to each team in sequence. The only exception to this is if no response is needed from the individual teams.

3) Certain letters of the alphabet can be confused when said (V and B, P and B, as examples). When spelling words for clarity or giving alphabetic designators, use the standard International Phonetic Alphabet shown in Step 7. Monitoring locations D.2.1 becomes "Delta point two point one". For a word like bat., say "I spell-bravo, alpha, tango", giving the phonetics slowly.

4) Give numerical information as digits rather than reading it as a number. 2432 becomes two, four, three, two rather than two thousand four hundred thirty two. 35.7 becomes three, five, point, seven rather than thirty five and seven tenths.

5) Report data as specified in the Field Monitoring EPP/IPs - that is by block location on the forms and without units such as mR/hr., cubic ft., or cpm. If units <u>must</u> be given, say them out - millirem per hour, counts per minute, etc. Avoid jargon and abbreviations.

6) Insure correct data transferal by obtaining repeat backs of all data sent and provide repeat back or acknowledgment of messages received (Three-way Communications).

ATTACHMENT 5 (2 of 2)

RADIO PROTOCOL

7) Avoid exclamatory or alarming statements. When you press the microphone button, you are making a public announcement because of the many scanners that can receive business band communications.

INTERNATIONAL PHONETIC ALPHABET

A-ALPHA	J-JULIETT	S-SIERRA
B-BRAVO	K-KILO	T-TANGO
C-CHARLIE	L-LIMA	U-UNIFORM
D-DELTA	M-MIKE	V-VICTOR
E-ECHO	N-NOVEMBER	W-WHISKEY
F-FOXTROT	O-OSCAR	X-XRAY
G-GULF	P-PAPA	Y-YANKEE
H-HOTEL	Q-QUEBEC	Z-ZULU
I-INDIA	R-ROMEO	

A5.735B

Beaver Valley Power Station

Unit 1/2

EPP/IP 9.4

ACTIVATION, OPERATION AND DEACTIVATION OF THE JOINT PUBLIC INFORMATION CENTER (JPIC)

Document Owner
Manager, Emergency Preparedness

Revision Number	9
Level Of Use	General Skill Reference
Safety Related Procedure	Yes

CONTROLLED
BVPS UNIT 3

EFFECTIVE INDEX

Rev.	0	OSC Approved	12-8-95
Rev.	1	Non-Intent Revision	10-23-96
Rev.	2	Non-Intent Revision	6-17-97
Rev.	3	OSC Approved	1-1-98
Rev.	4	Non-Intent Revision	12-2-99
Rev.	5	Non-Intent Revision	7-12-00
Rev.	6	Non-Intent Revision	12-12-01
Rev.	7	Non-Intent Revision	6-14-02
Rev.	8	Simple Change	8-15-02
Rev.	9	Procedure Correction	10-17-02

TABLE OF CONTENTS

A. PURPOSE

B. RESPONSIBILITY

C. ACTION LEVELS/PRECAUTIONS

D. PROCEDURE

E. FINAL CONDITIONS

F. REFERENCES

G. ATTACHMENTS

A. PURPOSE

This procedure provides guidance for the Joint Public Information Center (JPIC) staff in the activation, operation and deactivation of the JPIC.

B. REFERENCES

1.0 Beaver Valley Power Station Emergency Preparedness Plan.

2.0 Title 10, Code of Federal Regulations, Part 50.

3.0 NUREG-0654/FEMA-REP-1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants".

4.0 NPDAP 5.3, News Release and Notification

5.0 EPP/IP 1.7, Emergency Response Organization Teams.

6.0 Condition Report #01-3198, 01-4230, 01-4236

7.0 Condition Report #02-03981, 02-03982, 02-03983, 02-03678, 02-03713

8.0 Condition Report #02-04004, 02-04855, 02-04905, 02-04919

C. RESPONSIBILITIES

1.0 The JPIC Manager has overall responsibility for the implementation of this procedure.

2.0 Job Guidelines for JPIC personnel are located in Attachment 1.

D. ACTION LEVELS/PRECAUTIONS

1.0 ACTION LEVELS

1.1 JPIC activation is required at an emergency condition, classified as a Site Area or General Emergency at Beaver Valley Power Station Unit 1, Unit 2, <u>or</u> as requested by the Emergency Director, or ...

1.2 As deemed necessary by the Senior Nuclear Communications Representative, or designee, in consultation with the Senior Vice President-Nuclear, or designee.

2.0 PRECAUTIONS

2.1 All news announcements must be approved by either the designated Emergency Director (prior to Emergency Operations Facility (EOF) activation) or the Emergency/Recovery Manager (after EOF activation).

2.2 Any significant policy announcement on subjects other than plant conditions must be coordinated with First Energy Corporate Communications, in consultation with the Senior Vice President-Nuclear.

2.3 Representatives of the State and the County emergency response agencies are encouraged to participate at the news briefings. BVPS may issue joint news announcements with these agencies.

2.4 The County and the State emergency management agencies have been asked to advise the Senior Nuclear Communications Representative of announcements issued to the news media or the Emergency Alert Stations.

E. PROCEDURE

NOTE:
JPIC personnel are activated in accordance with EPP/IP 1.7, "EMERGENCY RESPONSE ORGANIZATION TEAMS."

1.0 ACTIVATION

NOTE:

Designated JPIC personnel (beeper holders) shall be notified and mobilized at an Alert Emergency via beeper activation. Once the designated personnel arrive at the JPIC, additional personnel may be called-in, as necessary.

1.1 Upon notification, JPIC personnel shall report to the JPIC and sign the staffing board.

1.2 The Information Coordinator shall notify the JPIC Manager when adequate staff has arrived.

1.3 The Logistics Coordinator shall notify the JPIC Manager when sufficient equipment and supplies are available for operation of the JPIC.

1.4 The Security Coordinator shall establish and maintain adequate security in accordance with Attachment 4 of this procedure.

1.5 The JPIC Manager shall make a formal activation announcement of the JPIC over the JPIC public address system.

1.6 Via telephone, the Information Coordinator shall inform the EPIO staff at the EOF and the Penn Power Customer Accounts Services Department that the JPIC has been activated.

2.0 OPERATION

2.1 News Announcements

2.1.1 The Information Coordinator shall collect all news announcements that were approved prior to JPIC activation.

2.1.2 Administrative Support personnel shall ensure the distribution of all news announcements as described in Attachment 2 of this procedure.

2.1.3 The Information Coordinator shall continue to obtain current news announcements from the EOF in accordance with the guidelines in Attachment 1.

2.1.4 The Information Coordinator shall ensure JPIC review and distribution of subsequent news announcements in accordance with the guidelines in Attachment 1.

2.1.5. The Information Coordinator shall verbally notify the EOF Nuclear Communication Manager of the JPIC receiving and reviewing of news announcements.

2.2 News Briefings

2.2.1 Via telephone, the JPIC Technical Advisor shall contact the EOF Technical Advisor to discuss plant related information.

2.2.2 Via telephone conferencing, the JPIC Technical Advisor shall ensure the participation of the Chief Company Spokesperson and Information Manager in discussions per 2.2.1, as appropriate.

2.2.3 Information gathered during the conference call may be presented at news briefings by the Chief Company Spokesperson.

2.2.4 The JPIC Manager shall arrange for a pre-briefing meeting with the governmental Public Information Officers (PIOs) present at the JPIC, in preparation for the news briefing.

2.2.5 The Chief Company Spokesperson and the JPIC Manager, in consultation with the governmental PIOs, will determine the frequency of news briefings at the JPIC.

2.2.6 The Media Relations Coordinator will inform the news media of the time of upcoming news briefings.

2.2.7 The JPIC Manager will preside over news briefings. The Chief Company Spokesperson and governmental PIOs will provide information and answer news media questions regarding the status of the emergency.

2.2.8 JPIC personnel will record questions that could not be answered and provide answers for subsequent news briefings.

2.2.9 The JPIC Technical Briefer will provide generic information regarding plant systems to the news media.

2.3 Information Management and Control

2.3.1 The Media Contact Representatives shall receive and respond to telephone calls from the news media in accordance with the guidelines in Attachment 1.

2.3.2 The Media Monitoring Representatives shall monitor TV and radio news broadcasts in accordance with the guidelines in Attachment 1.

2.3.3 The Rumor Control Coordinator shall report any apparent misinformation received to the Information Coordinator in accordance with the guidelines in Attachment 1.

2.3.4 The EMA Contact Representatives shall provide information to and receive information from the governmental PIOs at the JPIC in accordance with the guidelines in Attachment 1.

3.0 DEACTIVATION

3.1 Upon concurrence from the JPIC Manager, the Chief Company Spokesperson and governmental PIO's, the JPIC shall be deactivated.

3.2 Emergency equipment/supplies shall be restored to preactivation status, by the Logistics Coordinator.

F. FINAL CONDITIONS

This procedure shall be terminated after the following conditions have been met:

1.0 Normal plant operations have been or are in the process of being restored.

2.0 News media interest has diminished to such an extent that pre-emergency media relations procedures can again be used.

3.0 The JPIC staff has been relieved of all duties associated with the development and presentation of news information.

G. ATTACHMENTS

1.0 Job Guidelines

2.0 News Announcement Distribution

3.0 Rumor Inquiry Form

4.0 Security Procedures

5.0 JPIC Floor Plans

6.0 JPIC News Briefing Summary Sheet

ATTACHMENT 1 (1 of 17)

JOB GUIDELINES

CHIEF COMPANY SPOKESPERSON

1. Reports to the JPIC and signs the staffing board.

2. Briefs and consults with the EPIO staff and governmental PIOs at the JPIC.

3. Presents regular, timely information at news briefings at the JPIC regarding the status of the plant.

4. Announces plant status and actions being taken to achieve plant stability, using current news announcements and information regarding plant status provided by the Technical Advisor.

5. Reviews news announcements.

6. Announces any company policy decisions coming from the EOF regarding the protection and safety of on-site personnel.

7. Announces any upgrading or termination of emergency classification of the plant and the reason for the change.

8. Participates in interviews with the local, regional and national news media.

9. Frequently consults with the Emergency/Recovery Manager regarding present status of plant conditions and when possible participates in EOF briefings via phone.

ATTACHMENT 1 (2 of 17)

JOB GUIDELINES

JPIC MANAGER

1. Reports to the JPIC and signs the staffing board.

2. Mobilize the remainder of the JPIC staff by directing the Information Manager, Information Coordinator, Media Relations Coordinator and the Logistics Coordinator to begin the call out of additional personnel, as necessary.

3. Announces the activation of the JPIC via the public address system once sufficient staff and equipment is in place as communicated by the Information and Logistics Coordinators.

4. Ensures JPIC logistical needs are met through interface with the Logistics Coordinator.

5. Continually observes the operation of the JPIC and recommends changes or improvements to facilitate media briefings.

6. Reviews news announcements if Chief Company Spokesperson unavailable.

7. During news briefings, compiles a list of items that need to be followed up in subsequent briefings. This includes questions that need to be answered, evaluation of the effectiveness of each news briefing, and follow-up of incorrect information that was released to the public from whatever source.

8. Advises The Chief Company Spokesperson and points out potential questions to be answered in upcoming news briefings.

9. Deactivates the JPIC as outlined in Section E, Deactivation and Section F, Final Conditions of this procedure.

ATTACHMENT 1 (3 of 17)

JOB GUIDELINES

INFORMATION MANAGER

1. Reports to the JPIC and signs the staffing board.

2. As necessary, call-out additional personnel as follows:

   - EMA Contact Reps. (3) Three
   - Rumor Control Coordinator (2) Two
   - Media Monitoring Reps. (3) Three

3. In the absence or unavailability of the Chief Company Spokesperson and JPIC Manager, reviews news announcements.

4. Participates in telephone discussions between the Chief Company Spokesperson and the Technical Advisors at the JPIC and EOF.

5. Maintains communications with the Information Coordinator to assure that news announcement approval, rumor control, media monitoring, and news media contact functions are being conducted properly and effectively. Also, reviews and signs, "Rumor Inquiry Form" (Attachment 3).

6. Prior to any joint news briefings arranges a coordination meeting with the Chief Company Spokesperson and the State and County officials located at the JPIC.

7. Coordinates the issuing of news announcements with those of the State and County to ensure timeliness and consistency.

8. Oversees the EMA Contact Representatives to assure that the needs of the State and County representatives at the JPIC are being met.

9. Provide feedback to Media Monitoring Representatives, Media Contact Representatives, or Rumor Control Coordinator concerning how rumors or mis-information is addressed.

10. Review and approve JPIC News Briefing Summary Sheet (Attachment 6) and give to the Rumor Control Coordinator for distribution.

ATTACHMENT 1 (4 of 17)

JOB GUIDELINES

INFORMATION COORDINATOR

1. Reports to the JPIC and signs the staffing board.

2. As necessary, call-out additional personnel as follows:

   - Information Coordinator Assistant
   - CASD Reps., Penn Power-New Castle
   - Media Contact Reps. (3) Three

3. Serves as Information Manager until the Information Manager arrives.

Prior to JPIC activation:

1. Ensures staff has signed-in with Security.
2. Ensures staff completes the staffing board.
3. Notifies the JPIC Manager when the JPIC is fully staffed and can be activated.
4. Requests that the EOF transmit the Initial Notification Form and all news announcements that have been approved and distributed.

JPIC activation:

1. Informs the ERM or Assistant, Sr. Nuclear Communications Representative and EOF staffs via telephone that the JPIC is activated.
2. Obtains current news announcements from the EOF and verbally notifies EOF Nuclear Communications Manager of JPIC receiving and reviewing of news announcement.
3. Collects all news announcements that were approved prior to JPIC activation and ensures distribution to JPIC staff.
4. Continually ensures that news announcements are being provided to the State, County and Federal agencies either through telephone communications or hard copy transmission.
5. Ensures that the status boards in the Government and Work Rooms are continuously updated with emergency events.
6. Maintains ongoing communications with First Energy Corporate Communications informing them of emergency events.
7. Continually directs rumor control activities and investigates rumors. Assures the Information Manager reviews and approves responses to rumors per Attachment 3.

   a. After review and approval by the Information Manager, provide a copy of approved Rumor Inquiry form to the Rumor Control Coordinator.

ATTACHMENT 1 (5 of 17)

JOB GUIDELINES

INFORMATION COORDINATOR (CONTINUED)

JPIC activation:

8. Consults with the Information Manager and fulfills requests as needed.

9. If necessary, ensures that a second shift is called-out, in conjunction with Support Services (EOF).

10. Maintains an event log of all communications and activities and issues the log to the Emergency Preparedness Section at the conclusion of the emergency.

11. Collects event logs from JPIC at the conclusion of the emergency and forwards the logs to the Senior Nuclear Communications Representative.

12. Ensures distribution of news announcements to JPIC staff.

13. Via telephone, inform the EPIO staff at the EOF and the Penn Power Customer Services Department that the JPIC has been activated.

ATTACHMENT 1 (6 of 17)

JOB GUIDELINES

INFORMATION COORDINATOR - ASSISTANT

1. Reports to the JPIC and signs the staffing board.
2. Ensures the staff completes the staffing board and notifies the Information Coordinator when the JPIC is fully staffed.
3. Maintains and updates the status boards in the Government and Work Rooms with emergency events.
4. Maintains a log of the Information Coordinator's activities.
5. Ensures Media Monitors, Media Contact Representatives, and the Rumor Control Coordinator receive all news announcements.
6. Collects event logs from JPIC staff at the conclusion of the emergency and forwards the logs to the Information Coordinator.

ATTACHMENT 1 (7 of 17)

JOB GUIDELINES

JPIC TECHNICAL ADVISOR

1. Reports to the JPIC and signs the staffing board.

2. Maintains frequent contact with the EOF Technical Advisor to obtain up-to-the-minute information on plant status.

3. Keeps the Chief Company Spokesperson, JPIC Manager and Information Manager informed of the plant status and actions being taken to achieve plant stability and recovery.

4. Ensures that the Chief Company Spokesperson and the Information Manager are included in telephone discussions of plant status information with the EOF, as appropriate.

5. Takes written notes as needed to accurately convey information from the EOF Technical Advisor to the Chief Company Spokesperson, Information Manager or Information Coordinator.

6. Seeks information from the EOF Technical Advisor as requested by the Chief Company Spokesperson, JPIC Manager or Information Manager.

7. Consults with JPIC staff, as requested, in the interpretation and clarification of news announcements and other information regarding plant status and actions being taken to achieve plant stability and recovery.

ATTACHMENT 1 (8 of 17)

JOB GUIDELINES

EMERGENCY MANAGEMENT AGENCY (EMA) CONTACT REPRESENTATIVE

NOTE:

ONLY approved news announcements are to be available to the Media.

1. Reports to the JPIC and signs the staffing board.

2. Contacts the designated EMA State and County Public Information Officers, listed in the EP Resource Manual, and informs them that the Joint Public Information Center has been activated.

3. Provides a call-back number (use your phone number) for the EMA's use to obtain information regarding plant and on-site status.

4. Provides plant status information via news announcements to the County or State Public Information Officers at the JPIC.

5. Keeps the Information Manager apprised of County and State public announcements and news announcements.

6. Provides liaison between Company and County and State Public Information Officers for logistical and ongoing administrative needs within the JPIC.

7. Keeps EMA's apprised of relevant rumor control activity as directed by the Information Coordinator.

8. Maintains a log during an emergency of all contacts, time of contact, along with any other pertinent information.

9. Following an emergency, issues a report to the Information Manager regarding emergency response activities.

10. Ensures that News Announcements issued by the States are distributed at the JPIC. (Same distribution as FENOC News Announcements.

ATTACHMENT 1 (9 of 17)

JOB GUIDELINES

MEDIA CONTACT REPRESENTATIVES

1. Reports to the JPIC and signs the staffing board.

2. Provides logistical information (location of plant, lodging near plant, etc.) to the media.

3. Answers basic media inquiries related to the emergency. Detailed inquiries are logged and given to the Information Coordinator for follow-up. Information regarding station events/activities should be given to the media only after it has been released via a news announcement or News Briefing.

4. Directs the media on where to obtain news announcements issued to the wire service.

5. Reports rumor information to the Rumor Control Coordinator using the Rumor Inquiry Form (Attachment 3).

6. Maintains a log during an emergency of all contacts, time of contact, along with any other pertinent information.

7. Refers all inquiries regarding protective measures for public to appropriate County emergency management agency, per EPP/IP 9.5, Attachment 2.

8. Refers all industry calls requesting news announcements to the INPO Nuclear Network (Attachment 2).

9. Rumor Control Coordinator to assign a number to form before processing.

10. At the conclusion of the emergency, provides recorded information and logs to the Information Coordinator.

ATTACHMENT 1 (10 of 17)

JOB GUIDELINES

MEDIA MONITORING GUIDELINES

1. Reports to the JPIC and signs the staffing board.

2. Monitors local radio and TV stations and reports to the Information Coordinator through the Rumor Control Coordinator any information, which appears to be misleading or incorrect. Stations to be periodically monitored are:

RADIO	TV
KDKA - 1020 AM (Pittsburgh)	KDKA-TV Channel 2 (Pgh, Pa)
WKQV - 1410 AM (Pittsburgh)	WKBN - Channel 27 (Youngstown, OH)
WBVP - 1230 AM (Beaver Falls)	CNN (Atlanta, GA)
WMBA - 1460 AM (Ambridge)	
WWVA – 1170 AM (Wheeling)	
WVNP – 89.9 FM (WV Public Radio)	
WKBN - 570 AM (Youngstown, OH)	

3. Completes Rumor Inquiry Form (Attachment 3) and submits it to the Rumor Control Coordinator.

4. Receives rumor control information from the Information Coordinator, or designee, through the Rumor Control Coordinator, as appropriate, and monitors media accordingly.

5. Maintains a log of all incorrect information with time and source.

6. Receives information from written news announcements and from Media Relations Coordinator on upcoming interviews and coverage and monitors accordingly.

7. At the conclusion of the emergency, provides recorded information and logs to the Information Coordinator.

ATTACHMENT 1 (11 of 17)

JOB GUIDELINES

RUMOR CONTROL COORDINATOR - JPIC

1. Reports to the JPIC and signs the staffing board.

2. Receives and records all requests for information, points of clarification, and rumored information and assigns a number to the Rumor Inquiry Form.

3. Reports information to the Information Coordinator using the Rumor Inquiry Form (Attachment 3) for follow-up.

4. Receives corrected, approved "Rumor Inquiry Forms", (Attachment 3) from the Information Coordinator for distribution to the Media Contact Reps. and the Media Monitoring Reps.

5. Maintains a log of all rumors received and sources.

6. Records News Briefing Summary Sheets.

7. Obtains Information Manager's approval on News Briefing Summary Sheets.

8. Provides the approved JPIC News Briefing Summary Sheet (Attachment 6) to the Media Contact Representatives and the Media Monitoring Representatives.

9. At the conclusion of the emergency, provides recorded information and logs to the Information Coordinator.

ATTACHMENT 1 (12 of 17)

JOB GUIDELINES

MEDIA RELATIONS COORDINATOR

1. Reports to the JPIC and signs the staffing board.

2. Calls out the Technical Briefer to report to the JPIC, if needed.

3. Continually observes the operation of the Joint Public Information Center and recommends changes or improvements to facilitate media briefings.

4. Advises Chief Company Spokesperson (through the JPIC Manager, if available) and points out potential questions to be answered in upcoming news briefings.

5. Coordinates requests from news media. This may include:

   a. Arranging media tours to designated locations near the plant for photographic and filming purposes;
   b. Recommending spokespersons and arranging media interviews with company officials;
   c. Coordinating special parking requirements for national network or other trailers, etc.
   d. Obtaining permission from plant security for aerial photography;
   e. Providing press kits, photos, diagrams, etc., as requested.

6. Works with the Logistics Coordinator to ensure that the media briefing area at the JPIC is fully functional.

7. Semi-annually reviews and updates press kits at the JPIC.

8. Ensures that news announcements and biographies are distributed in the JPIC media briefing area.

9. Maintains a log of all news announcements, (Federal, State, County and Utility) distributed to the mass media from the JPIC and maintains a copy of each news announcement.

10. Ensures that microphones are turned on prior to each news briefing.

11. Compiles and issues a report to the Information Coordinator at the conclusion of the emergency.

ATTACHMENT 1 (13 of 17)

JOB GUIDELINES

TECHNICAL BRIEFER

1. Reports to the JPIC and signs the staffing board.

2. Attends all news briefings to obtain information on the current status of various plant systems.

3. Consults with the JPIC Technical Advisor as needed on questions and requests for information related to systems affected by an emergency.

4. Answers media questions between news briefings concerning descriptions of plant systems and operating characteristics of these systems.

NOTE:

INFORMATION GIVEN TO THE NEWS MEDIA IS LIMITED TO DESCRIPTIONS OF THE OPERATION OF PLANT SYSTEMS. SINCE THE DISCUSSION ON ACTUAL PLANT CONDITIONS AND ACTIONS BEING TAKEN TO ACHIEVE PLANT STABILITY IS THE RESPONSIBILITY OF THE CHIEF COMPANY SPOKESPERSON, THE TECHNICAL BRIEFER WILL NOT SPECULATE ON SUCH MATTERS OR POTENTIAL FUTURE EVENTS.

5. Explains plant systems by using the plant visual schematics that are available in the Media Presentation Room.

6. Serves as advisor to the JPIC Staff on any technical matter.

ATTACHMENT 1 (14 of 17)

JOB GUIDELINES

LOGISTICS COORDINATOR

1. Reports to the JPIC and signs the staffing board.

2. As necessary, call out additional personnel as follows:

   - Administrative Support (JPIC)
   - Engineering Communications Representative
   - Security Coordinator (JPIC)

3. Assures the timely delivery and set-up of all equipment and display material required for emergency response operation, including equipment that is stored at other locations.

4. Notifies Security Coordinator to initiate security measures at the JPIC properties.

5. Arranges for the accommodation of news trailers, and other media or corporate transportation equipment.

6. Assures the set-up of sufficient communications equipment at the JPIC.

7. Maintains supervision of all logistics during an emergency at the JPIC properties and acts as a liaison with the management of the JPIC.

8. Maintains a quarterly check and test of all JPIC equipment and reports any changes or problems to the Senior Nuclear Communications Representative.

9. Maintains up-to-date checklists and procedures for JPIC set-up and operation, revising quarterly. Also maintains current forms for JPIC use during emergency response.

10. Coordinates with the EOF Support Services Manager for JPIC clerical support and 24 hour staffing.

11. Coordinates synchronizing the JPIC clock with the EOF/TSC clocks.

12. Compiles and issues a report of all emergency response logistics to the JPIC Manager at the conclusion of the emergency.

ATTACHMENT 1 (15 of 17)

JOB GUIDELINES

SECURITY COORDINATOR

1. Reports to the JPIC and signs the staffing board.
2. Implements security requirements for JPIC.
3. Assures that security officers are stationed at proper locations as outlined in Attachment 4 of this procedure.
4. Assures that only individuals with proper credentials as outlined in the EPIO Emergency Preparedness Plan are admitted to the JPIC.
5. Contacts local or State law enforcement officials should their assistance be required.
6. Maintains a log of personnel entering and leaving the JPIC.
7. Compiles and issues a report to the Logistics Coordinator at the conclusion of the emergency.

ATTACHMENT 1 (16 of 17)

JOB GUIDELINES

ENGINEERING COMMUNICATIONS REPRESENTATIVE

1. Reports to the JPIC and signs the staffing board.

2. Provides technical expertise and resolves telecommunication problems associated with emergency response operations.

3. Assists with the set-up, operation, and maintenance of all telecommunications equipment, as required.

4. Coordinates operation and maintenance of the necessary telecommunications channels and equipment that is required between the JPIC and outside governmental facilities (i.e., PEMA, Harrisburg Office).

5. Assures the timely acquisition of additional emergency telecommunications engineering support personnel, if necessary.

6. Compiles and issues a report to the Logistics Coordinator at the conclusion of the emergency.

ATTACHMENT 1 (17 of 17)

JOB GUIDELINES

ADMINISTRATIVE SUPPORT

NOTE:

ONLY approved news announcements are to be available or given to the media.

1. Reports to the JPIC and signs the staffing board.
2. Operates facsimile and copy equipment.
3. Requests necessary materials, resources, personnel from Logistics Coordinator to ensure the smooth flow of information within and from the JPIC.
4. Distributes Company news announcements to JPIC staff and external locations in accordance with Attachment 2.
5. Aid the State, County and NRC in distributing their news announcements at the JPIC.
6. Compiles and issues a report to the Logistics Coordinator at the conclusion of the emergency.

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NEWS ANNOUNCEMENT DISTRIBUTION **ATTACHMENT 2 (1 of 3)**
FOR: JOINT PUBLIC INFORMATION CENTER

NOTE:

ONLY approved news announcements are to be available or given to the media.

Distribution checklist for all news announcements issued by BVPS, state, county and federal agencies as a result of an emergency at BVPS.

News Announcement # _____

_____ Revision received _____ Revision Distributed
_____ Time received _____ Time Distributed

FAX TO:

_____	PR Newswire	888-568-0898
_____	EOF Nuclear Communications Staff	724-682-5994
_____	First Energy Corporate Communications	330-384-4539
_____	Beaver County EMA	724-775-1163
_____	Columbiana County EMA	330-424-9267
_____	Hancock County OES	304-564-4031
_____	Pennsylvania EMA	717-651-2021
_____	Ohio EMA	614-889-7183
_____	West Virginia OES	304-344-4538
_____	NRC (Region I, Public Affairs)	610-337-5241
_____	NRC (Washington D.C.)	301-415-2234
_____	INPO	770-644-8549
_____	Nuclear Energy Institute	202-739-8000

NEWS ANNOUNCEMENT DISTRIBUTION **ATTACHMENT 2 (2 of 3)**
FOR: JOINT PUBLIC INFORMATION CENTER

NOTE:

ONLY approved news announcements are to be available or given to the media.

Distribution checklist for all news announcements issued by BVPS, state, county and federal agencies as a result of an emergency at BVPS.

News Announcement # _____

_____ Revision received _____ Revision Distributed
_____ Time received _____ Time Distributed

HAND CARRY TO:

_____ Information Manager
_____ Information Coordinator
_____ Information Coordinator Assistant
_____ Technical Advisor
_____ Chief Company Spokesperson
_____ Rumor Control Coordinator
_____ Media Relations Coordinator
_____ Media Monitoring Reps. (3)
_____ Post in JPIC (1)
_____ Copies For Reporters (as needed)
_____ Technical Briefer
_____ Emergency Management Contact Representatives (11)
- _____ Pennsylvania Rep. (5)
- _____ Ohio Rep. (3)
- _____ West Virginia Rep. (3)

Attachment 2 (3 of 3)

NEWS ANNOUNCEMENT DISTRIBUTION
FOR: JOINT PUBLIC INFORMATION CENTER

TELEPHONE CONTACTS

1. NRC REGION 1 PUBLIC AFFAIRS 610-337-5330
   General Office number 610-337-5000
   WASHINGTON D.C. PUBLIC AFFAIRS 310-415-8200
   Weekends 310-415-7000
2. PENNSYLVANIA EMERGENCY MANAGEMENT AGENCY
   General Number 717-651-2001
3. BEAVER COUNTY EMERGENCY MANAGEMENT AGENCY
   ..... 724-775-1049 or
   724-775-1700
   Public Information (Site Area or General Emergency) 724-775-0344
4. OHIO EMERGENCY MANAGEMENT AGENCY .....
   614-889-7153
   Public Affairs Officer 614-889-7000
5. COLUMBIANA COUNTY EMERGENCY MANAGMENT AGENCY
   ..... 330-424-9725 or
   330-424-7005
   Public Information (Site Area or General Emergency) 330-424-0861
6. WEST VIRGINIA OFFICE OF EMERGENCY SERVICES
   304-558-5380
7. HANCOCK COUNTY OFFICE OF EMERGENCY SERVICES
   304-564-4040
   ..... or 4041
8. FIRST ENERGY CORPORATE
   Todd Schneider, Mgr., FENOC Communications 330-315-7290
   Pager 440-733-0728
   Home 330-659-6216
   Ralph J. DiNicola, FE Corporate Public Relations 330-384-5939
   Home 330-896-3380
   Fax 330-384-4539
   Corporate Communications On-Call
   Answering (Evenings and Weekends) 888-900-5200
9. INSTITUTE OF NUCLEAR POWER OPERATIONS (INPO)
   Communications Division 770-644-8216
   EP Command Center 1-800-321-0614
10. Nuclear Energy Institute (NEI) 202-739-8000
    Fax 202-785-4113
11. EDISON ELECTRIC INSTITUTE 24-hr. Press Hotline 800-424-8897
    General Switchboard 202-778-6400

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ATTACHMENT 3 (1 of 1)

RUMOR INQUIRY FORM
JOINT PUBLIC INFORMATION CENTER

Rumor Received by: Number: _____

__Media Monitoring Rep.

__Media Contact Reps. Other _____

Date:_____ Time Received:_____

Rumor Source: __News Media __Employee __Public Other _____

Name of Source:_____

Affiliation, if any:_____

Nature of Rumor:_____

_____

_____

Person Recording Rumor: _____

Response: _____

_____

Source of Response: _____

Information Mgr. (or designee)
Approval Signature:_____

Forward copy to: __ Rumor Control Coordinator. __ Information Coordinator.

__ Media Monitoring Reps. __ Media Contact Reps.

__ JPIC Mgr. __ Inform. Mgr.

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ATTACHMENT 4 (1 of 2)

SECURITY PROCEDURES

A. PURPOSE:

This procedure provides guidance for controlling access and maintaining order within the Joint Public Information Center (JPIC) in support of the BVPS Emergency Preparedness Plan.

B. SCOPE:

These procedures shall apply to all individuals, both employees and non-employees, who are present at the JPIC when that facility is operated in support of the BVPS Emergency Preparedness Plan.

C. PROCEDURES:

1.0 The Security Coordinator for the JPIC shall be directly responsible for implementing and enforcing these procedures when the JPIC is activated in support of the BVPS Emergency Preparedness Plan, as well as during appropriate periods immediately prior to such activation when these procedures are deemed necessary to establish and maintain order at the JPIC.

2.0 To assist the Security Coordinator in implementing and enforcing these procedures, if needed, security officers will be positioned at various locations to control access and to help maintain order. All personnel within the JPIC must adhere to these procedures, and must accept the authority of the security officers to restrict access in compliance with these procedures.

3.0 Disorderly persons shall be removed from the JPIC, if such action is necessary to maintain proper order, and the Security Coordinator shall establish liaison with local law enforcement agencies to provide appropriate support for this purpose.

4.0 Properly identified Beaver Valley Power Station employees will be allowed access to the JPIC as necessary for the performance of their duties, but all BVPS employees must wear their company ID cards in the chest area in a visible manner whenever they are inside the JPIC when these procedures are in effect. Any questions regarding employee access or the proper display of company ID cards should be referred to the Security Coordinator.

ATTACHMENT 4 (2 of 2)

SECURITY PROCEDURES

5.0 All non-employees must enter through the marked doors at the front (North side) of the JPIC, and must be logged-in at the appropriate registration desk after presenting proper credentials from the organizations they represent. Any non-employees without proper credentials must have their access authorized by an appropriate Beaver Valley Supervisor. Each non-employee will be issued one of the following types of access badges when he or she is logged-in, and must wear the badge in the chest area in a visible manner at all times while within the JPIC:

a) News Media Representatives - pink cards
b) Governmental Representatives - blue cards
c) Visitors - white cards

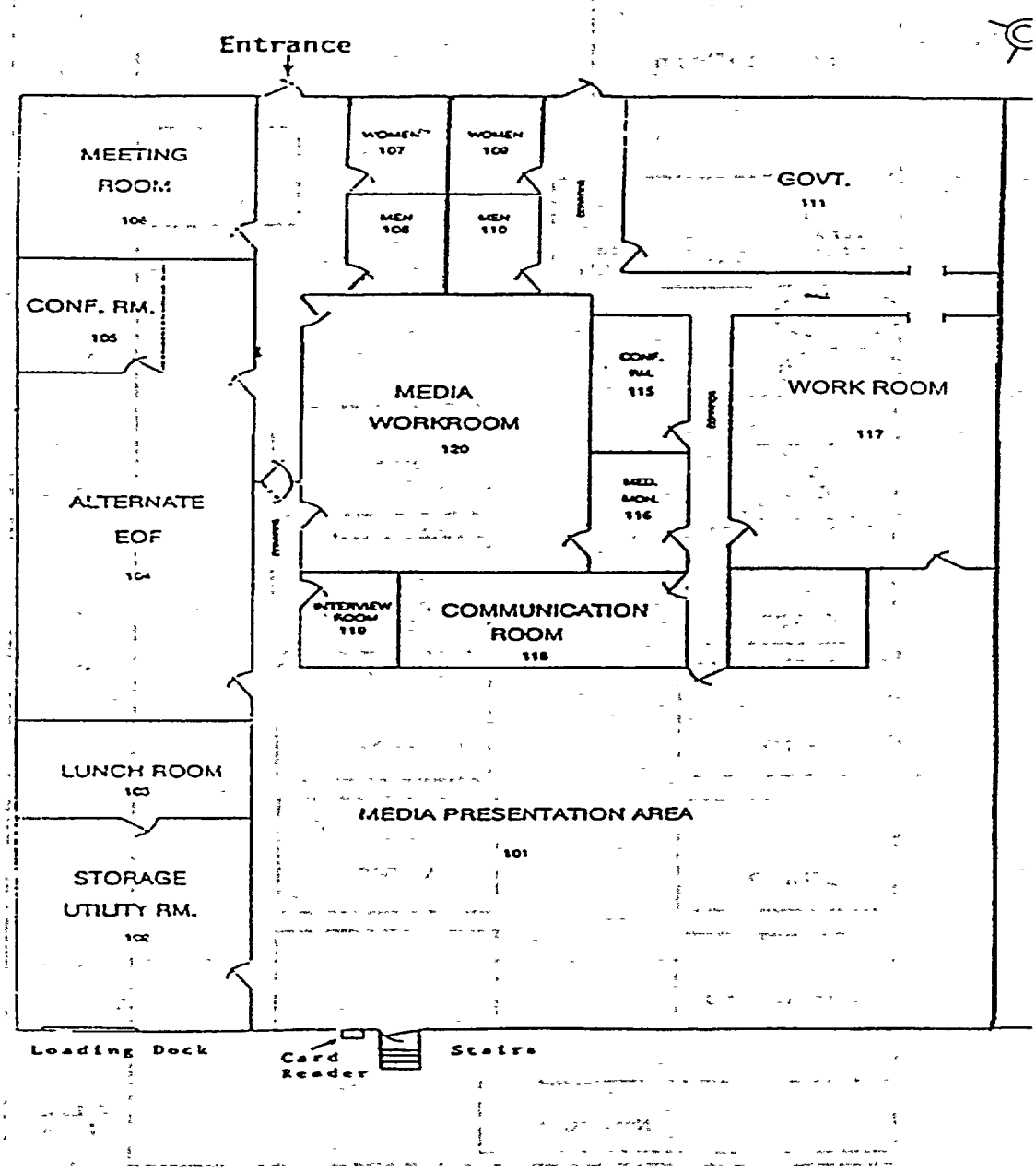
6.0 Prior to departing the JPIC for any reason, all non-employees must return their access badges and be logged-out. Any lost access badges must be reported to the Security Coordinator as soon as the loss is noticed.

7.0 Certain non-employees may be authorized limited access to the JPIC loading dock and adjacent Lunch Room for logistical purposes (i.e., delivery and removal of food, supplies, trash, etc.), without being logged-in or issued access badges, but such access must be specifically authorized by the Security Coordinator. A security officer or other designated representative of the Security Coordinator must accompany such persons at all times while they are within the JPIC. Under no circumstances will such persons be admitted to any areas of the JPIC other than the loading dock and adjacent Lunch Room.

8.0 If the Alternate EOF is activated, Alternate EOF personnel will enter the JPIC Building per EPP/IP 1.6, Attachment 2. BVPS Security will send a representative to be stationed inside the JPIC Building, but outside the Alternate EOF door. BVPS Security will control access to the Alternate EOF.

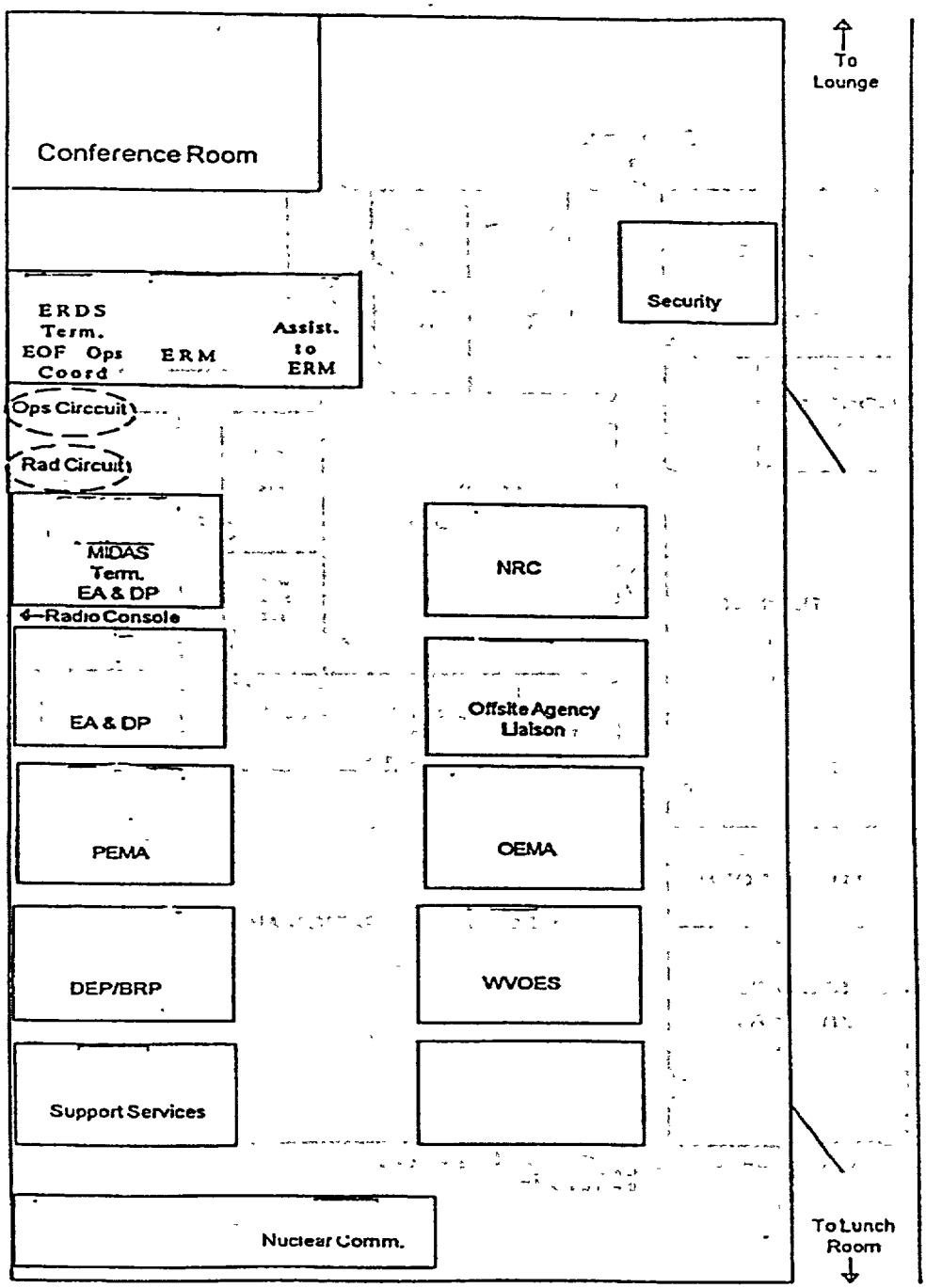
ATTACHMENT 5 (1 of 4)

JPIC FLOOR PLANS



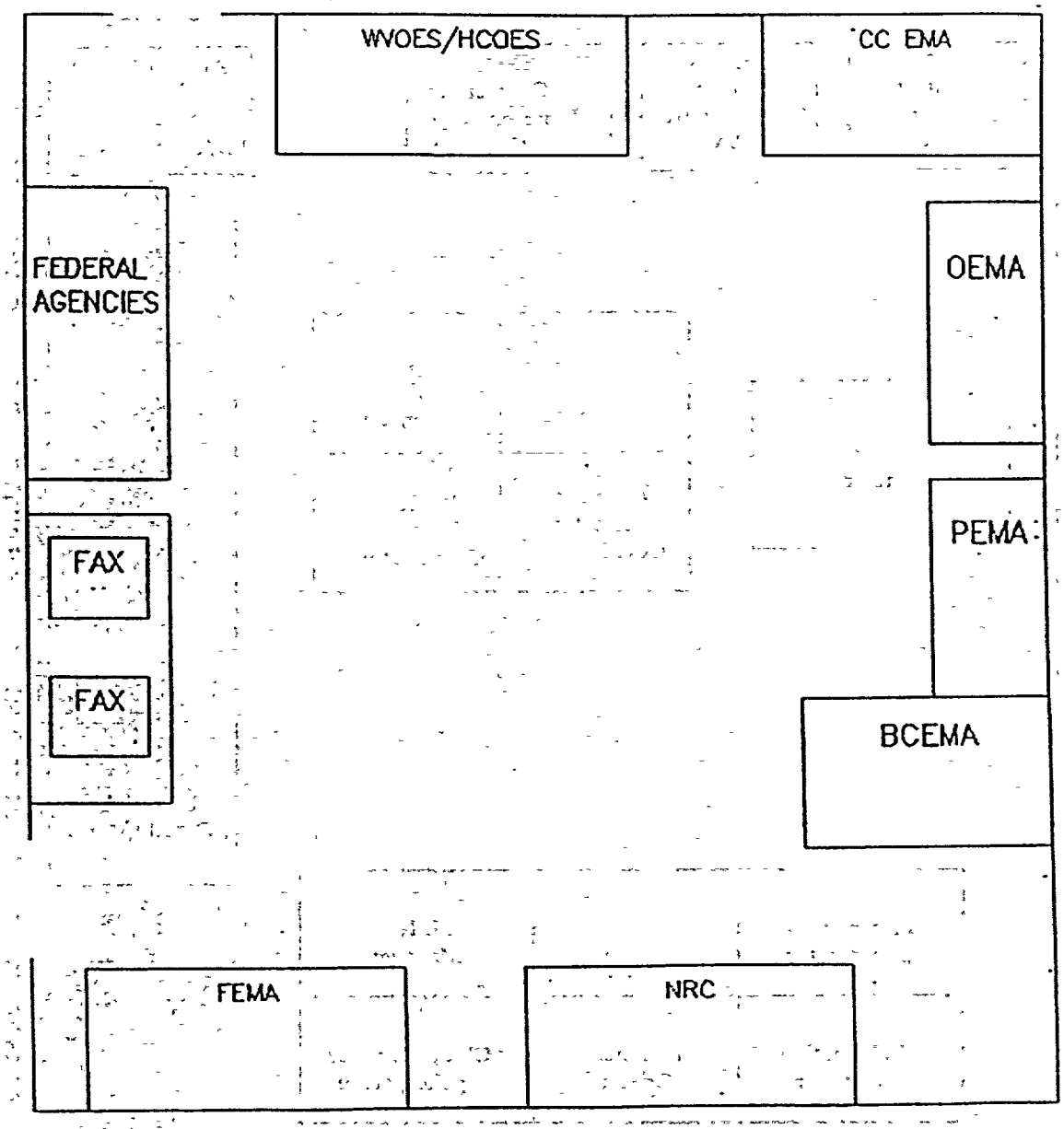
ATTACHMENT 5 (2 of 4)

JPIC AEOF



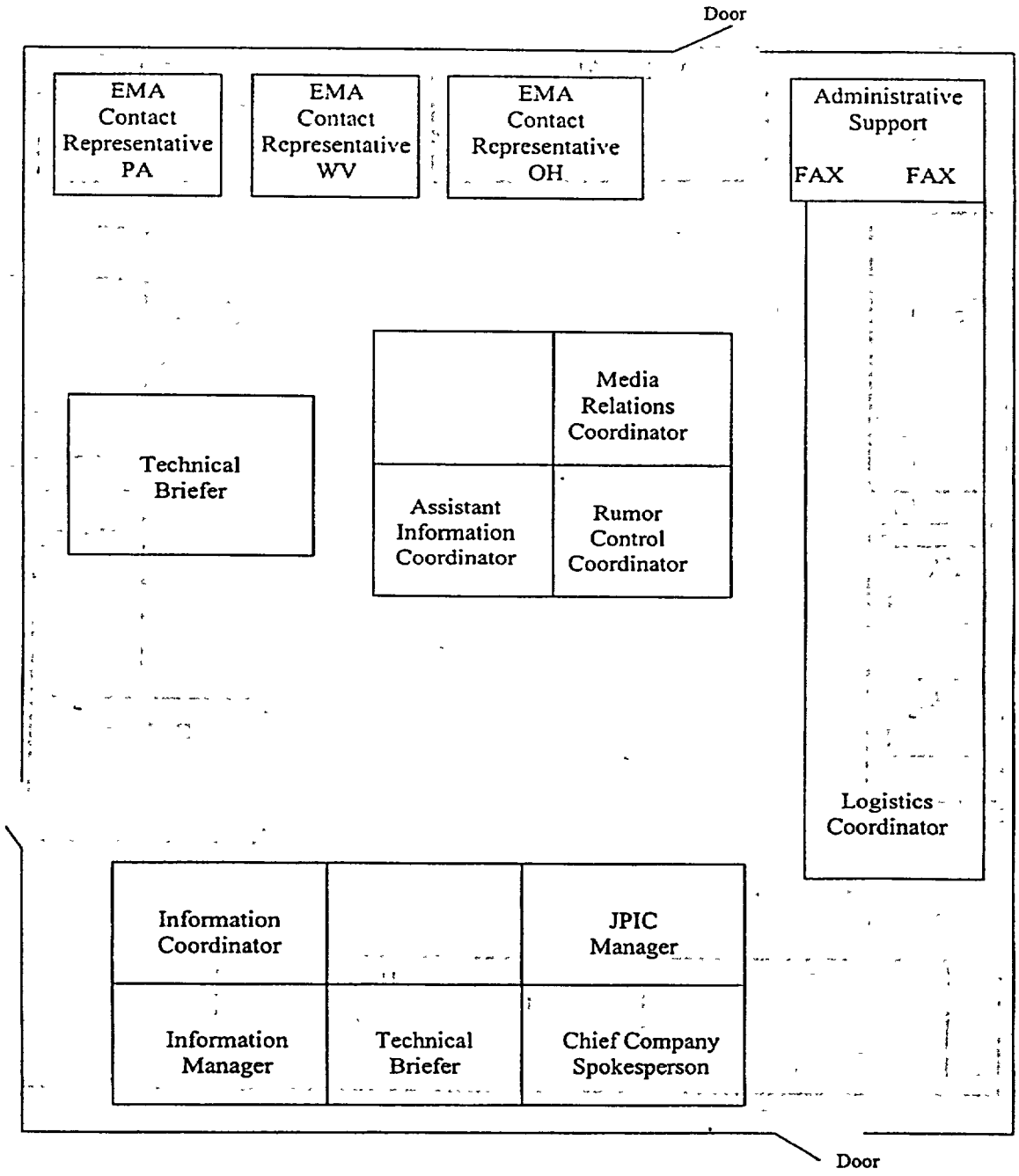
ATTACHMENT 5 (3 of 4)

JPIC GOVERNMENT ROOM



ATTACHMENT 5 (4 of 4)

JPIC WORK ROOM



ATTACHMENT 6 (1 of 2)

JPIC NEWS BRIEFING SUMMARY SHEET

Beaver Valley Unit No. 1 ☐ **Unit No. 2** ☐ **(Check one)**

Date: _____ **Time:** _____ **News Briefing Number:** _____

Chief Company Spokesperson: _____

Event Classification: **Category:** _____

Time Declared: _____

Cause: _____

Radiation Being Released? ☐ Yes ☐ No

Refer all questions regarding offsite radiation readings to respective County/State Emergency Operations Center.

Injured Person: **Name:** _____ **Time of Injury:** _____

Injury: _____

Where: _____

Present Condition: _____

Why Occurred: _____

Where is Injured Taken _____

Significant Plant Equipment Failure: _____

What/When/Why _____

_____

_____

Significant Noteworthy Item: _____

_____

_____

Rumor Control Coordinator Preparer: _____

JPIC Information manager Approval: _____

ATTACHMENT 6 (2 of 2)

JPIC RUMOR CONTROL COORDINATOR FORM

- This form is to be used by the JPIC Rumor Control Coordinator to document major or significant new information being provided by the JPIC Chief Company Spokesperson or JPIC Manager during a JPIC News Briefing that has changed since the last JPIC News Briefing. This information will be provided to the JPIC Media Contact Representative at the conclusion of a JPIC News Briefing for their use in disseminating event information over the telephones.

- The information needs to be **ACCURATE** and **CONCISE**. If you are unsure of the information, either confirm the information or omit the information.

- Only fill out the applicable information. Don't include information, which you would not expect to see in a News Announcement.

- This information is a secondary method to the written News Announcements as the way that Media Contact Representatives obtain information to be released over the telephones. This information may provide early summary notification to Media Contact Representatives before the issue is available on a written News Announcement. The written News Announcements will normally provide the details or additional extent of condition information on issues for the Media Contact Representatives to use.

  NOTE: This is not intended to be a substitute for the News Release Information, just an early warning of significant changes which you should see coming in a future News Announcement.

- Information should never be supplied to the Media Contact Representatives for their use over a telephone UNTIL AFTER it has been released via a written News Announcement or via a JPIC News Briefing.

- Any questions on this form or on the information to be supplied with this form should be brought to the JPIC Manager or JPIC Information Manager.