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SUBJECT: Forwards proprietary revs to emergency procedures,including rev 3 16DP-0EP11,rev 2 to 16DP-0EP12,rev 1 to 16DP-0EP13, rev 3 to 16DP-0EP14,rev 6 to 16DP-0EP15,rev 2 to 16DP-0EP16 & rev 4 to 16DP-0EP17.Encl withheld.

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Arizona Public Service Company
PALO VERDE NUCLEAR GENERATING STATION
P.O. BOX 52034 • PHOENIX, ARIZONA 85072-2034

10 CFR 50, Appendix E.V

102-03988 - AKK/CJJ
August 1, 1997

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-37
Washington, DC 20555

Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2, and 3
Docket Nos. STN 50-528/529/530
Emergency Procedure Update

In accordance with 10 CFR 50, Appendix E.V, enclosed please find copies of revised PVNGS Emergency Procedures (EPs). The procedures included with this transmittal are indicated on the enclosed list.

The enclosed EPs contain information considered private or proprietary (including names and internal telephone numbers). In accordance with Generic Letter No. 81-27, the specific information has been bracketed on the EPs. Arizona Public Service Company (APS) requests that this information be considered confidential and withheld from public disclosure pursuant to 10 CFR 2.790(a) and 10 CFR 9.17(a).

By copy of this letter, APS is forwarding two copies of the enclosure to the NRC Region IV Office. Copies of the revised EPs are provided to the NRC Resident Inspector's Office as an update to the assigned controlled procedures.

If you have any questions, please contact Scott A. Bauer at (602) 393-5978.

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A045

Sincerely,

Angela K. Krainik

Angela K. Krainik, Department Leader
Nuclear Regulatory Affairs

Change	Ltr.	Encl
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AKK/CJJ/cj
Enclosure

cc: G. M. Good (w/Enclosure - 2 copies)
E. W. Merschoff (w/o Enclosure)
PVNGS Sr. Resident (w/o Enclosure)
K. E. Perkins (w/o Enclosure)

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Superseded pages per Revs to EPIP 9708080058 8/1/97

PROCEDURE INTENT

This procedure establishes guidelines for the following administrative functions:

- provide technical and administrative review, update, and approval of Emergency Plan Implementing Procedures and Joint Public Information Procedures
- provide assurance for review of the PVNGS Emergency Plan, 16DP series NATM Procedures, the Emergency Action Level Technical Bases Document, the Emergency Preparedness Training Program Description, and the Joint Public Information Procedures prior to document creation, revision, or cancellation in accordance with 10 CFR 50.54(q)
- provide for development, conduct, evaluation, and documentation of emergency preparedness drills and exercises
- provide for instruction and testing of onsite and offsite ERO personnel in the use of equipment, communications, plans, procedures, and management commitments
- provide for testing of equipment, communications, plans, procedures, and management commitments
- provide for the operational readiness and availability of reserves required for implementation of the PVNGS Emergency Plan through maintenance of equipment and supplies
- verify the adequacy of the PVNGS Emergency Plan, procedures, and effectiveness of both onsite and offsite emergency preparedness

EFFECTIVE DATE 05-16-97

1.0 - Introduction

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1.0 - Introduction *continued...*

Applicability

This procedure establishes guidelines and contains provisions for administering functions deemed necessary to ensure adequacy of the PVNGS Emergency Preparedness Program. This procedure should be used when direction is required to test, change, or verify any aspect of the PVNGS Emergency Preparedness Program.

Content

This Introduction Section of the procedure describes the following:

- Scope
- Responsibilities

Scope

This procedure includes guidance oriented towards the following aspects of the Emergency Preparedness Program:

- review, update, or approval of 16DP series NATM Procedures
- review, update, or approval of Joint Public Information Procedures
- 10 CFR 50.54(q) screening criteria for reviews pertaining to the PVNGS Emergency Plan
- 10 CFR 50.54(q) screening criteria for reviews pertaining to 16DP series NATM Procedures and the Emergency Action Level Technical Bases Document
- 10 CFR 50.54(q) screening criteria for reviews pertaining to the Emergency Preparedness Training Program Description and the Joint Public Information Procedures
- development, conduct, evaluation, and documentation of emergency preparedness drills and exercises
- instruction and testing of onsite and offsite ERO personnel in use of equipment, communications, plans, procedures, and management commitments
- periodic testing of equipment, communications, plans, procedures, and management commitments
- verifying the adequacy of plans and procedures and the effectiveness of PVNGS onsite and offsite emergency preparedness
- verifying the operational readiness and availability of reserves required for implementation of the PVNGS Emergency Plan
- fulfillment of regulatory requirements

1.0 - Introduction *continued...*

Responsibilities

The Department Leader - Emergency Planning *(or designee)* shall be responsible for the coordination of the following activities:

- review and approval of the PVNGS Emergency Plan, 16DP series NATM Procedures, and Joint Public Information Procedures
- assurance that 10 CFR 50.54(q) screening requirements have been completed prior to revision of the PVNGS Emergency Plan and/or the creation, revision, or cancellation of 16DP series NATM Procedures, the Emergency Action Level Technical Bases Document, the Emergency Preparedness Training Program Description, or the Joint Public Information Procedures
- assurance that PVNGS Nuclear Regulatory Affairs has submitted one copy of a revised plan or procedure to the Administrator of the USNRC Regional Office and two copies to the Document Control Desk within thirty days following approval of the plan or procedure
- appropriate development, review, approval, conduct, evaluation, and documentation of applicable emergency preparedness related tests, training sessions, drills, and exercises
- approval of objectives / extent-of-play regarding applicable training sessions, drills, and exercises in conjunction with offsite agencies, if applicable
- submittal of evaluated exercise scenarios to the USNRC and FEMA when requested
- verification that PVNGS Emergency Kits are maintained in a state of operational readiness and availability for emergency events
- as appropriate, participation of Emergency Planning staff members as Facility Advisors
- fulfillment of emergency preparedness regulatory requirements

Procedure Layout

- Each section in this procedure is associated with guidance applicable to a given aspect of PVNGS Emergency Preparedness.
- Each section may be organized into topic areas comprising duties and/or requirements the individual must maintain to accomplish the associated task.
- Tasks are preceded by check-off lines the individual may use to denote fulfillment or accomplishment of applicable topic area criteria.

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1.0 - Introduction *continued...*

Procedure Layout *(continued)*

- Certain areas of procedures may incorporate the use of flowcharts, whereby direction may be specified to proceed, or go to, other areas of the procedure. These other areas are annotated by block labels, such as the block label for this topic area cited by **"Procedure Layout"** in the immediate left margin scan column. Using this schema, the user should immediately proceed ahead in the document to the specified block label when directed by the flowchart and perform the actions associated with the given topic area.

Procedure Use

The individual using this document should address each applicable topic area to ensure that onsite and offsite emergency preparedness programs are maintained at optimum capabilities at all times and that regulatory requirements are fulfilled. Instructional Guides may be used in addition to this procedure for areas where detailed guidance is desired to accomplish a particular function.

2.0 - Procedure Review and Approval Overview

Limitations

01DP-0AP01, Procedure Process, shall be used as a basis for the review and approval of 16DP series NATM Procedures and the Joint Public Information Procedures.

16DP series NATM Procedures and the Joint Public Information Procedures shall be reviewed and updated, if appropriate, on a biennial basis or more frequently if required by changing conditions.

The PVNGS Emergency Plan shall be reviewed and updated, if appropriate, on an annual basis or more frequently if required by changing conditions.

Telephone numbers listed in 16IG-0EP201, Telecommunications, shall be reviewed and updated, if appropriate, on a quarterly basis. Any changes required shall be initiated as soon as practicable following noted inconsistencies.

A 10 CFR 50.54(q) Screening per Section 3 of this procedure shall be completed for any revision to the PVNGS Emergency Plan and/or the creation, revision, or cancellation of 16DP series NATM Procedures, the Emergency Action Level Technical Bases Document, the Emergency Preparedness Training Program Description, and the Joint Public Information Procedures prior to their creation, revision, or cancellation. The Screening is performed to determine if a 10 CFR 50.54(q) Evaluation is required for the document change. Creation, revision, or cancellation made to the 16DP series NATM Procedures, the Emergency Preparedness Training Program Description, and/or the Joint Public Information Procedures as a result of a PVNGS Emergency Plan revision do not require a second 10 CFR 50.54(q) Screening or Evaluation.

Emergency Planning shall address cross-organizational review comments received from reviewing disciplines for appropriateness to the revisions.

In addition to the cross-organizational reviews, Joint Public Information Procedures shall be reviewed by the following personnel:

- Joint Emergency News Center Facility Coordinator
- Joint Emergency News Center State / County / PVNGS Spokespersons
- Rumor Control Group Supervisor
- PVNGS Strategic Communications

Emergency Planning shall ensure that PVNGS Nuclear Regulatory Affairs has submitted one copy of a revised plan or created or revised procedure to the Administrator of the USNRC Regional Office and two copies to the Document Control Desk within thirty days following approval of the plan or procedure*(s)*.

2.1 - Procedure Review and Approval Methodology

Process

___ Obtain the following reports and forms for use in the procedure review and approval process:

- Procedure Action Cover Sheet *(PAC)*
- Commitment Action Tracking System *(CATS)* database search results
- 10 CFR 50.54(q) Screening / Evaluation *(Section 3 of this procedure)*
- Cross-organization Review
- Notification of Procedure Change

___ Using 01DP-0AP01, Procedure Process, perform a *(biennial)* review or revision to the applicable procedure*(s)*, considering the following items:

- deficiencies in training, procedures, personnel performance, and equipment identified during training sessions, drills, and exercises
- changes to personnel assignments within onsite or offsite Emergency Response Organizations
- changes to state or federal regulations or policies
- recommendations from industry organizations or agencies
- modifications to the plant or site area
- changes to facilities
- changes in operational status or construction impact
- results of federal, state, industry, or internal audits
- changes resulting from revisions to the PVNGS Emergency Plan or other procedures
- 10 CFR 50.59 Screening / Evaluation requirements

___ Address all cross-organizational review comments for appropriateness.

___ Perform a 10 CFR 50.54(q) Screening per Section 3 of this procedure.

___ For intent changes, perform a 10 CFR 50.59 Screening and Evaluation.

___ Obtain required technical reviews and approvals as appropriate.

___ Ensure that PVNGS Nuclear Regulatory Affairs has submitted one copy of a revised plan or procedure*(s)* to the Administrator of the USNRC Regional Office and two copies to the Document Control Desk within thirty days following approval of the plan or procedure*(s)*.

3.0 - 10 CFR 50.54(q) Overview of Requirements

Abstract

Per 10 CFR 50.54 (q):

A licensee authorized to possess and operate a nuclear power reactor shall follow and maintain in effect emergency plans which meet the standards in 50.47(b) and the requirements in Appendix E of this part. A licensee authorized to possess and/or operate a research reactor or a fuel facility shall follow and maintain in effect emergency plans which meet the requirements in Appendix E to this part. The licensee shall retain the emergency plan and each change that decreases the effectiveness of the plan as a record until the Commission terminates the license for the nuclear power reactor. The nuclear power reactor licensee may make changes to these plans without Commission approval only if the changes do not decrease the effectiveness of the plans and the plans, as changed, continue to meet the standards of 50.47(b) and the requirements of Appendix E to this part. The research reactor and/or the fuel facility licensee may make changes to these plans without Commission approval only if these changes do not decrease the effectiveness of the plans and the plans, as changed, continue to meet the requirements of Appendix E to this part. This nuclear power reactor, research reactor, or fuel facility licensee shall retain a record of each change to the emergency plan made without prior Commission approval for a period of three years from the date of the change. Proposed changes that decrease the effectiveness of the approved emergency plans may not be implemented without application to and approval by the Commission. The licensee shall submit, as specified in 50.4, a report of each proposed change for approval. If a change is made without approval, the licensee shall submit, as specified in 50.4, a report of each change within 30 days after the change is made.

[21 FR 355, Jan. 19, 1956, as amended at 28 FR 3197, Apr. 3, 1963; 58 FR 45243, Aug. 27, 1993; 59 FR 5519, Feb. 7, 1994; 59 FR 10267, Mar. 4, 1994]

3.0 - 10 CFR 50.54(q) Overview of Requirements *continued...*

Limitations

A 10 CFR 50.54(q) Screening is performed to determine if a 10 CFR 50.54(q) Evaluation is required for the revision / cancellation. The Evaluation will be performed for all PVNGS Emergency Plan revisions and any document creation, revision, or cancellation requiring a revision to the PVNGS Emergency Plan.

10 CFR 50.54(q) Evaluations are conducted to ensure that revisions to the PVNGS Emergency Plan maintain compliance with federal regulations and do not decrease its effectiveness. The following types of Plan and procedure revisions do not impact the effectiveness of the PVNGS Emergency Plan:

- telephone number changes
- staffing assignment changes
- facility floor plan modifications
- changes to equipment inventory requirements
- format changes / typographical error corrections
- modifications that do not alter the intent of the PVNGS Emergency Plan *(e.g., intent is altered if the accomplishment or its method changes in a significant manner relative to regulatory standards, requirements, guidance, or to commitments addressed in the existing revision of the Plan or associated procedures)*

If the proposed revision / cancellation causes a decrease in the effectiveness of the PVNGS Emergency Plan, the revision / cancellation and associated justification must be submitted to the US Nuclear Regulatory Commission for approval prior to implementation.

3.1 - 10 CFR 50.54(q) Methodology

Process

___ Obtain the following forms for use in the 10 CFR 50.54(q) Screening and Evaluation process:

- EP-0760, 10 CFR 50.54(Q) Screening
- EP-0761, 10 CFR 50.54(Q) Evaluation

___ Complete Form EP-0760, 10 CFR 50.54(Q) Screening.

___ Complete Form EP-0761, 10 CFR 50.54(Q) Evaluation, if required.

___ Submit completed form*(s)* to the Department Leader - Emergency Planning *(or designee)*.

4.0 - Overview of Training Sessions / Drills / Exercises

Provisions of Implementation

All training sessions, drills, and exercises should be scheduled and conducted to minimize conflicts with normal plant operations.

If practicable, training sessions, drills, and exercises should be scheduled in conjunction with applicable onsite / offsite response organizations and with the Licensed Operator Training Organization.

Major drills and exercise scenarios shall be developed in conjunction with participating response organizations and the scenario content should vary from exercise to exercise such that all major elements *(i.e., Planning Standards)* of the PVNGS Emergency Plan are tested within a six-year period.

Objectives, the extent-of-play scheme, and the scenario for the biennial USNRC Evaluated Exercise shall be approved by the Department Leader - Emergency Planning *(or designee)* and submitted to the USNRC Regional Office and the Federal Emergency Management Agency within the time periods requested by those agencies prior to the Evaluated Exercise.

Communications capabilities shall be tested annually between PVNGS, federal and state emergency response organizations, and field assessment teams and shall include notification aspects related to emergency response staffing. These tests may be performed in conjunction with the Annual Exercise.

Drills and exercises shall incorporate the following aspects:

- a Lead Controller will administer the Control Organization
- players will be briefed on ground rules and safety considerations prior to commencement of the event
- facility critiques will be conducted in accordance with 10 CFR 50 Appendix E.IV.F.2.g.
- corrective actions shall be implemented to address negative findings *(i.e., deficiencies and weaknesses)* noted during performance of the drill or exercise

Findings identified during performance of drills / exercises shall be appropriately categorized comparable to USNRC methodology. Deficiencies will be identified in accordance with 10 CFR 50.54(s)(2)(ii). Weaknesses will be identified as findings in which the licensee's level of preparedness could have precluded effective implementation of the Emergency Plan in the event of an actual emergency. Weaknesses generally correspond to those objectives which relate to and are evaluated in accordance with regulatory criteria.

continues...

4.0 - Overview of Training Sessions / Drills / Exercises *continued...*

Provisions of Implementation ***(continued)***

NOTE

The biennial requirement for an exercise of the PVNGS Emergency Plan is based on a Final Rule Amendment to 10 CFR 50 Appendix E, Section IV, F. Paragraphs 2.b and 2.e, as amended on 03 MAY 96, and becomes effective 15 JUL 96, 30 days following publication in the Federal Register.

An exercise of the PVNGS Emergency Plan shall be conducted every two years and may be included in the biennial offsite plan exercise. Necessary actions shall be taken to ensure that adequate emergency response capabilities are maintained during the interval between biennial exercises by conducting drills, at least one of which involves a combination of some of the principle functional areas of onsite emergency response capabilities. These functional areas include activities such as management and coordination of emergency response, accident assessment, protective action decision-making, and plant system repair with corrective actions. State and local government agencies located within the plume exposure pathway Emergency Planning Zone *(EPZ)* shall be offered the opportunity to particpate in drills when requested by the agencies. Activation of all emergency response facilities is not necessary during these drills. The following aspects should be addressed:

- the opportunity for accident management strategies is afforded
- supervised instruction is permitted
- the opportunity for operating staff to resolve problems *(success paths)* in lieu of Controller intervention is provided
- the focus of the drills is on training objectives

continues...

4.0 - Overview of Training Sessions / Drills / Exercises *continued...*

Provisions of Implementation ***(continued)***

The Biennial USNRC Evaluated Exercise must satisfy, as a minimum, all of the following seven criteria:

- The exercise must be an exercise and not a drill. In an exercise, player performance is observed and noted by evaluators for critique purposes; there is no coaching by non-players.
- The exercise involves major elements of the Emergency Plan. Most or all of the emergency response facilities *(ERFs)* are activated.
- The exercise tests the integrated capability of the licensee to implement the Emergency Plan.
- A unique scenario is developed for the exercise.
- In addition to a Federal evaluation, the licensee performs a self-assessment of the exercise. A critique is conducted to identify strengths and weaknesses. Corrective actions are developed and implemented to address identified weaknesses.
- State and local organizations are offered the opportunity to participate in the exercise.
- Utility documentation of the exercise and how it met these criteria must be available for examination by USNRC inspectors.

4.1 - Training Session / Drill / Exercise Frequency Requirements

Training Sessions	***Facility:***	not required - scheduled per Simulator / classroom / personnel availability or as needs arise based on performance history or procedure and duty responsibility familiarization
	Table-top:	not required - scheduled per availability of personnel and resources based on performance history or procedure and duty responsibility familiarization
Drills	***Assembly:***	6-year - performed in conjunction with Security personnel - involves Accountability activities
	Radiological Monitoring:	annual - environmental drill involving onsite soil / vegetation deposition sampling
	Full-Scale:	biennial - scheduled in years between Evaluated Exercises per Simulator / classroom / personnel availability or as needs arise based on performance history or procedure and duty responsibility familiarization
	Health Physics:	semi-annual - can be performed in conjunction with the Biennial Exercise or Full-Scale Drill - both of the following per calendar year, one in each half: ◆ ***PASS:*** satisfies liquid sampling requirements ◆ ***Radiological:*** satisfies airborne sampling requirements - performed with onsite / offsite survey teams
	Medical:	annual - conducted with offsite medical and transportation facilities - involves care of contaminated injured individuals
Exercises	***Evaluated:***	biennial - scheduled per availability of the Simulator and plant personnel in conjunction with federal, state, and county authorities - evaluated by Federal agencies and self-assessment audit teams - must satisfy the seven criteria delineated in Section 4, Provisions of Implementation, of this document - documentation of actual events may be used in lieu of Exercise performance based on request to NRR with subsequent approval
	IPZ:	6-year - ingestion pathway involving offsite agency response - full-scope 2-day event

5.0 - Equipment Test Overview

Provisions of Implementation

Equipment testing should be scheduled and conducted to minimize conflicts with normal plant operations.

All records associated with required tests shall be collected and approved by Emergency Planning and forwarded to the Document Configuration Control *(DCC)* Section of Nuclear Information Records Management.

5.1 - Equipment Test Frequency Requirements

Communications

ERDS: quarterly - scheduled for eleventh week of each calendar quarter - involves Control Room link verification to USNRC Operations Center from each PVNGS Unit

NAN: monthly - tested by Operations - failures reported to Emergency Planning Department

State / County: quarterly - communications links tested by Emergency Planning Department

USNRC: monthly - tested by Emergency Planning Department from Unit Control Rooms, TSC, and EOF - failures reported to USNRC Operations Center

Offsite Siren Warning System

Activation: annual - conducted by Arizona Division of Emergency Management *(ADEM)* - APS Communications and Construction and Emergency Planning participate - malfunctions reported to APS Communications and Construction - Emergency Planning prepares / submits report to ADEM, who forwards to Federal Emergency Management Agency *(FEMA)*

Growl: quarterly - conducted by APS Communications and Construction - Emergency Planning notified of test scope and schedule - test results / failures reported to Emergency Planning

Silent: monthly - conducted by Maricopa County Division of Emergency Management *(MCDEM)*, Maricopa County Sheriff's Office *(MCSO)*, and Arizona Department of Public Safety *(DPS)* - test results / failures reported to Emergency Planning

5.1 - Equipment Test Frequency Requirements *continued...*

Uninterruptible Power Supply	***Dose Assessment:***	quarterly - tested for all dose assessment computers - test conducted by Emergency Planning

6.0 - Overview of Emergency Kit Maintenance

Limitations

Emergency Preparedness Kits shall be inventoried immediately following any event which breaches the integrity of the kit *(i.e., designating equipment usage)* or each calendar quarter, whichever is most limiting.

Emergency Plan Dose / Dose Rate equipment is calibrated on a 6-month cycle and air sampling equipment is calibrated annually. Replacement of this equipment shall occur prior to the next calibration due date individually designated on each item. Equipment used in an emergency event must be returned to the calibration facility for calibration and required maintenance, if necessary. However, there shall be sufficient reserves of required instrumentation / equipment to replace those which are removed for calibration or repair.

Operational checks of radiation survey and monitoring instrumentation shall be performed at quarterly inventory intervals. The operational checks shall include the radiological check source test and the internal battery test, if so equipped. Check source tests will also be performed on instrumentation during an emergency event.

NATM Procedures contained in the ERO Position Manuals are maintained current by Nuclear Information Records Management, but will be inventoried quarterly in conjunction with the Emergency Kit to ensure none are out-of-date.

Equipment substitutions are prohibited unless specifically approved by the Department Leader - Emergency Planning *(or designee)*.

6.1 - Emergency Kit Inventory Verification

Provisions of Implementation

The following Emergency Preparedness Kits shall be inventoried immediately following use or each calendar quarter, whichever is most limiting:

- 2 - Ambulance *(Fire Department / Medical Center)*
- 1 - Emergency Operations Facility
- 1 - Offsite Decontamination *(Buckeye Airport)*
- 2 - Offsite Hospitals *(Good Samaritan / Maryvale)*
- 3 - Operations Support Center *(1 per Unit)*
- 3 - Radiological Field Assessment Team Vehicles *(maintained in Building E)*
- 4 - Satellite Technical Support Center *(1 per Unit and Simulator-A)*
- 1 - Site Medical Center *(Building F)*
- 1 - Soil Sampling *(maintained in Building E)*
- 1 - Technical Support Center

6.1 - Emergency Kit Inventory Verification *continued...*

Process

Use of the Emergency Kit Inventory Instructional Guide, 16IG-0EP052, is strongly suggested for performance of any Emergency Kit inventory verification.

EFFECTIVE DATE 08-08-96

PROCEDURE INTENT

This procedure provides actions required to ensure equipment associated with PVNGS emergency preparedness is dispositioned in a timely manner and recovered properly in the event of related system or component malfunction.

1.0 - Introduction

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1.0 - Introduction *continued...*

Applicability

This procedure provides actions required to ensure equipment associated with PVNGS emergency preparedness is dispositioned in a timely manner and recovered properly in the event of related system or component malfunction. This document should be used to determine the steps necessary to ensure that reported system or component malfunctions are addressed expeditiously and the equipment is returned to service in a timely manner.

Content

This Introduction Section of the procedure describes the following:

- Scope
- Responsibilities

Scope

This procedure includes guidance to aid in correcting problems regarding PVNGS onsite and offsite emergency preparedness equipment.

Responsibilities

The Department Leader - Emergency Planning *(or designee)* shall be responsible for the administration of coordinated activities, including immediate notification to Nuclear Regulatory Affairs *(If appropriate)*, regarding problems associated with emergency preparedness equipment and to ensure that an expeditious return to service of that equipment is completed. In addition, s/he shall be responsible to assure continued support from organizations relied upon for notification to PVNGS Emergency Planning for problems associated with this equipment.

Procedure Layout

- Each section in this procedure is associated with guidance applicable to a given equipment area for the PVNGS Emergency Preparedness Program.
- Each section may be organized into topic areas comprising duties and/or requirements the individual must maintain to accomplish the associated task.
- Tasks are preceded by check-off lines the individual may use to denote fulfillment or accomplishment of applicable topic area criteria.

continues...

1.0 - Introduction *continued...*

Procedure Layout ***(continued)***

- Certain areas of procedures may incorporate the use of flowcharts, whereby direction may be specified to proceed, or go to, other areas of the procedure. These other areas are annotated by block labels, such as the block label for this topic area cited by "**Procedure Layout**" in the immediate left margin scan column. Using this schema, the user should immediately proceed ahead in the document to the specified block label when directed by the flowchart and perform the actions associated with the given topic area.

Procedure Use

The individual using this document should address the applicable topic area pertaining to the failed component or system to ensure that onsite and offsite emergency preparedness equipment is maintained at optimum capabilities at all times and that regulatory requirements are fulfilled.

2.0 - PVNGS Onsite Equipment Overview

Profile

PVNGS onsite emergency preparedness equipment includes, but is not limited to, the following system*(s)* and/or component*(s)*:

- TSC and EOF backup diesel generators
- TSC and EOF heating and ventilation systems
- TSC and EOF area radiation monitors
- TSC and EOF miscellaneous equipment
- PVNGS Site-Wide Paging System
- PVNGS ERO Group Pocket Paging System *(primary notification)*
- PVNGS Emergency Voice Response System Autodialer *(backup notification)*

2.1 - TSC / EOF Backup Diesel Generators

Process

When notified of component or system malfunction regarding the Technical Support Center or Emergency Operations Facility backup diesel generator, perform the following action*(s)*:

___ Notify the appropriate PVNGS Maintenance Department discipline of the problem. *(Describe the nature of the problem accurately.)*

___ Notify the Department Leader - Emergency Planning *(or designee)* of the affected system / component and the nature of the problem.

___ Maintain subsequent follow-up actions to problem resolution.

___ Complete any required documentation associated with the problem and submit accordingly.

2.2 - TSC / EOF Heating and Ventilation Systems

Process

When notified of component or system malfunction regarding the Technical Support Center or Emergency Operations Facility heating and ventilation system, perform the following action*(s)*:

___ Notify PVNGS Facility Services of the problem. *(Describe the nature of the problem accurately.)*

___ Notify the Department Leader - Emergency Planning *(or designee)* of the affected system / component and the nature of the problem.

___ Maintain subsequent follow-up actions to problem resolution.

___ Complete any required documentation associated with the problem and submit accordingly.

2.3 - TSC / EOF Area Radiation Monitors

Process

When notified of component or system malfunction regarding the Technical Support Center or Emergency Operations Facility area radiation monitor RU-13A or RU-13B, perform the following action*(s)*:

___ Notify PVNGS RMS Maintenance of the problem. *(Describe the nature of the problem accurately.)*

___ Notify the Department Leader - Emergency Planning *(or designee)* of the affected system / component and the nature of the problem.

___ Maintain subsequent follow-up actions to problem resolution.

___ Complete any required documentation associated with the problem and submit accordingly.

2.4 - TSC / EOF Miscellaneous Equipment

Process

When notified of component or system malfunction regarding the Technical Support Center or Emergency Operations Facility miscellaneous equipment, perform the following action*(s)*:

___ Notify the appropriate discipline of the problem. *(Describe the nature of the problem accurately.)*

___ Notify the Department Leader - Emergency Planning *(or designee)* of the affected system / component and the nature of the problem.

___ Maintain subsequent follow-up actions to problem resolution.

___ Complete any required documentation associated with the problem and submit accordingly.

2.5 - PVNGS Site-Wide Paging System

Process

When notified of component or system malfunction regarding the PVNGS Site-Wide Paging System, perform the following action*(s)*:

___ Notify APS Systems Electric of the problem. *(Describe the nature of the problem accurately.)*

___ If appropriate, notify the Unit Shift Supervisors of the affected system or component and the nature of the problem.

___ Notify the Department Leader - Emergency Planning *(or designee)* of the affected system / component and the nature of the problem.

___ Maintain subsequent follow-up actions to problem resolution.

___ Complete any required documentation associated with the problem and submit accordingly.

2.6 - PVNGS ERO Group Pocket Paging System

Process

When notified of component or system malfunction regarding the PVNGS Emergency Response Organization Group Pocket Paging System *(primary notification)*, perform the following action*(s)*:

___ Notify the appropriate PVNGS discipline of the problem. *(Describe the nature of the problem accurately.)*

___ Notify the Department Leader - Emergency Planning *(or designee)* of the affected system / component and the nature of the problem.

___ Maintain subsequent follow-up actions to problem resolution.

___ Complete any required documentation associated with the problem and submit accordingly.

2.7 - PVNGS Emergency Voice Response System Autodialer

Process

When notified of component or system malfunction regarding the PVNGS Emergency Voice Response System Autodialer *(backup notification)*, perform the following action*(s)*:

___ Notify the appropriate PVNGS discipline of the problem. *(Describe the nature of the problem accurately.)*

___ Notify the Department Leader - Emergency Planning *(or designee)* of the affected system / component and the nature of the problem.

___ Maintain subsequent follow-up actions to problem resolution.

___ Complete any required documentation associated with the problem and submit accordingly.

3.0 - PVNGS Offsite Equipment Overview

Profile

PVNGS offsite emergency preparedness equipment includes, but is not limited to, the following system*(s)* and/or component*(s)*:

- PVNGS Offsite Siren Warning System

3.1 - PVNGS Offsite Siren Warning System

Process:

Failure to Activate

When notified of component or system malfunction regarding the Offsite Siren Warning System, perform the following action*(s)*:

___ Notify APS Systems Electric of the problem. *(Describe the nature of the problem accurately.)*

___ Notify the Department Leader - Emergency Planning *(or designee)* of the affected system / component and the nature of the problem.

NOTE

The following organizations have the ability to detect and notify PVNGS Emergency Planning of Offsite Siren Warning System malfunction:

- Maricopa County Division of Emergency Management *(MCDEM)*
- Maricopa County Sheriff's Office *(MCSO)*
- Arizona Department of Public Safety *(DPS)*
- APS Microwave Center
- APS Systems Electric

___ Contact an organization other than the one reporting the problem to determine the scope of the problem *(i.e., system-wide or isolated)*.

___ If the problem is determined to be isolated in nature, contact the Maricopa County Division of Emergency Management and request a possible change to System Master Control capabilities.

continues...

3.1 - PVNGS Offsite Siren Warning System *continued...*

Process:

Failure to Activate ***(continued)***

If the problem is determined to be system-wide *(i.e., greater than 40% failure, or 16 or more sirens)*, perform the following actions immediately:

___ Inform Nuclear Regulatory Affairs *(during normal working hours)* or the Unit 1 Shift Supervisor *(off-hours)* of the system failure and re-quest a notification be initiated to the USNRC within 1 hour of siren system failure. *(Describe the nature of the problem accurately.)*

___ Notify APS Systems Electric of system outage status.

___ Notify Maricopa County Division of Emergency Management and request a notification be initiated to the Maricopa County Sheriff's Office regarding system outage status and the potential for MCSO to assume notification functions.

___ Inform the APS Switchboard of system outage status.

___ Maintain subsequent follow-up actions to problem resolution.

___ When the malfunction has been corrected, contact the Maricopa County Division of Emergency Management and request a test of the system be initiated.

___ If the problem had been determined to be system-wide and testing of the Offsite Siren Warning System has been completed satisfactorily, notify Nuclear Regulatory Affairs *(during normal working hours)* or the Unit 1 Shift Supervisor *(off-hours)* of system test results.

___ Notify the Department Leader - Emergency Planning *(or designee)* of the Offsite Siren Warning System test results.

___ Complete any required documentation associated with the problem and submit accordingly.

3.1 - PVNGS Offsite Siren Warning System *continued...*

Process:

Inadvertent Activation

When notified of component or system malfunction regarding the Offsite Siren Warning System, perform the following action*(s)*:

___ Ensure that APS Switchboard personnel have documented the information in accordance with 16IG-0EP091, Inadvertent Siren System Activation.

___ Contact APS Systems Electric / PVNGS Electrical Maintenance and ensure that the associated problem is dispositioned in accordance with 16IG-0EP091, Inadvertent Siren System Activation.

___ Notify the Department Leader - Emergency Planning *(or designee)* of the affected system / component and the nature of the problem.

___ Maintain subsequent follow-up actions to problem resolution.

___ Complete any required documentation associated with the problem and submit accordingly.

EFFECTIVE DATE 06-28-96

PROCEDURE INTENT

This procedure provides a means of classifying events into one of the four emergency classifications described in the PVNGS Emergency Plan.

1.0 - Introduction

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1.0 - Introduction *continued...*

Applicability

This procedure provides a means of classifying events into one of the four emergency classifications described in the PVNGS Emergency Plan. It should be referenced anytime the Shift Supervisor / Emergency Coordinator has determined that the state of the Unit or site is or has the potential to be in a degraded condition.

Content

This Introduction Section of the procedure describes the following:

- Prerequisites
- Precautions
- Limitations
- Notes

Prerequisites

The following condition has been satisfied:

- A situation has occurred which requires *(or may require)* the implementation of the PVNGS Emergency Plan to protect the health and safety of the public.

Precautions

Emergencies should be classified with a goal of 15 minutes from the time conditions are available as specified in the NRC Position Paper of 01 AUG 95.

The plant operating Mode that existed at the time the event occurred, prior to any protective system or operator action initiated in response to the condition, is the applicable Mode of the Emergency Action Levels. If an event occurs, and a lower or higher plant operating Mode is reached before the emergency classification can be made, the declaration shall be based on the Mode that existed at the time the event occurred.

If a conflict exists in the classification level due to an Emergency Action Level discrepancy, the Emergency Action Level most accurately describing the condition should be applied when classifying the event.

If an indication of barrier challenge or failure exists which is inconsistent with the current emergency classification, rediagnose plant conditions and implement the emergency classification indicated.

If a more severe Fission Product Barrier "LOSS" Category in Section 3 has been met, then assume the "POTENTIAL LOSS" criteria of the associated category has been automatically satisfied.

1.0 - Introduction *continued...*

Limitations

For emergency classifications of ***Alert*** or higher, the Shift Supervisor of the Affected Unit shall be relieved as the Emergency Coordinator by either an Emergency Coordinator qualified individual who is available in the Unit, the Shift Supervisor of an Unaffected Unit, or the Duty Site Shift Manager. For ***Notification of Unusual Event***, relief is optional to the Affected Unit Shift Supervisor.

Responsibilities of the Affected Unit Shift Supervisor are:

- initial classification of the event per this procedure
- notification of the Shift Supervisor of an Unaffected Unit or other qualified individual to assume the duty as Emergency Coordinator, when required
- organization of the onshift staff to place the plant into a safe condition
- assumption of the Emergency Coordinator position until relieved

Non-delegable responsibilities of the Emergency Coordinator are:

- initiate activation of onsite and offsite emergency response organizations for an ***Alert*** or higher level emergency classification
- notification of offsite emergency response agencies and offsite emergency organizations
- subsequent reclassification of emergency events
- recommendation of protective actions as necessary to offsite emergency management agencies
- determination of the necessity for site evacuation
- authorization for emergency workers to exceed 10 CFR 20 exposure limits

Events shall be classified as soon as possible in order to allow for prompt notification to offsite authorities. Prompt notification means within fifteen minutes from the time at which operators declare the emergency classification. *(RE: 10 CFR 50 APP E.IV.D.3)*

Used in the context of a steam generator tube rupture as stated in the Fission Product Barrier Emergency Action Level [V-12], a "prolonged release of contaminated secondary coolant" encompasses a main steam line break, feedwater line break, stuck open steam generator safety and/or atmospheric dump valve*(s)*, and plant cooldown *(i.e., to Mode 5)* while steaming the affected steam generator to atmosphere.

1.0 - Introduction *continued...*

Notes

The PVNGS Emergency Action Level Technical Bases Document serves as foundation to this procedure and should be referenced when appropriate.

The Emergency Action Levels comprising Sections 3 and 4 of this procedure each incorporate an Emergency Action Level Identification Code *(i.e., V-nnn)* immediately following the Emergency Action Level statement and functions as a cross-reference to the PVNGS Emergency Action Level Technical Bases. The number corresponds to the Technical Bases Document page number where the basis for the particular Emergency Action Level can be found. The identification code number is also employed as data on PVNGS Emergency Message Forms.

Each entry comprising Section 4 event categories incorporates the industry generic Initiating Condition *(IC)* and the plant specific Emergency Action Level. The Initiating Condition should be reviewed to ensure the significance addressed by the Emergency Action Level is taken into consideration.

In the event of a declaration of ***General Emergency***, the response by the State of Arizona may involve actions to evacuate the public to include citizens out to ten miles in the Emergency Planning Zone. Note that the state's Protective Action Decision may differ from the site's Protective Action Recommendation.

Procedure Layout

- Tasks in this procedure are preceded by check-off lines the individual may use to denote performance of steps or topic areas.
- Certain areas of procedures may incorporate the use of flowcharts, whereby direction may be specified to proceed, or go to, other areas of the procedure. These other areas are annotated by block labels, such as the block label for this topic area cited by **"Procedure Layout"** in the immediate left margin scan column. Using this schema, the user should immediately proceed ahead in the document to the specified block label when directed by the flowchart and perform the actions associated with the given topic area.

Procedure Use

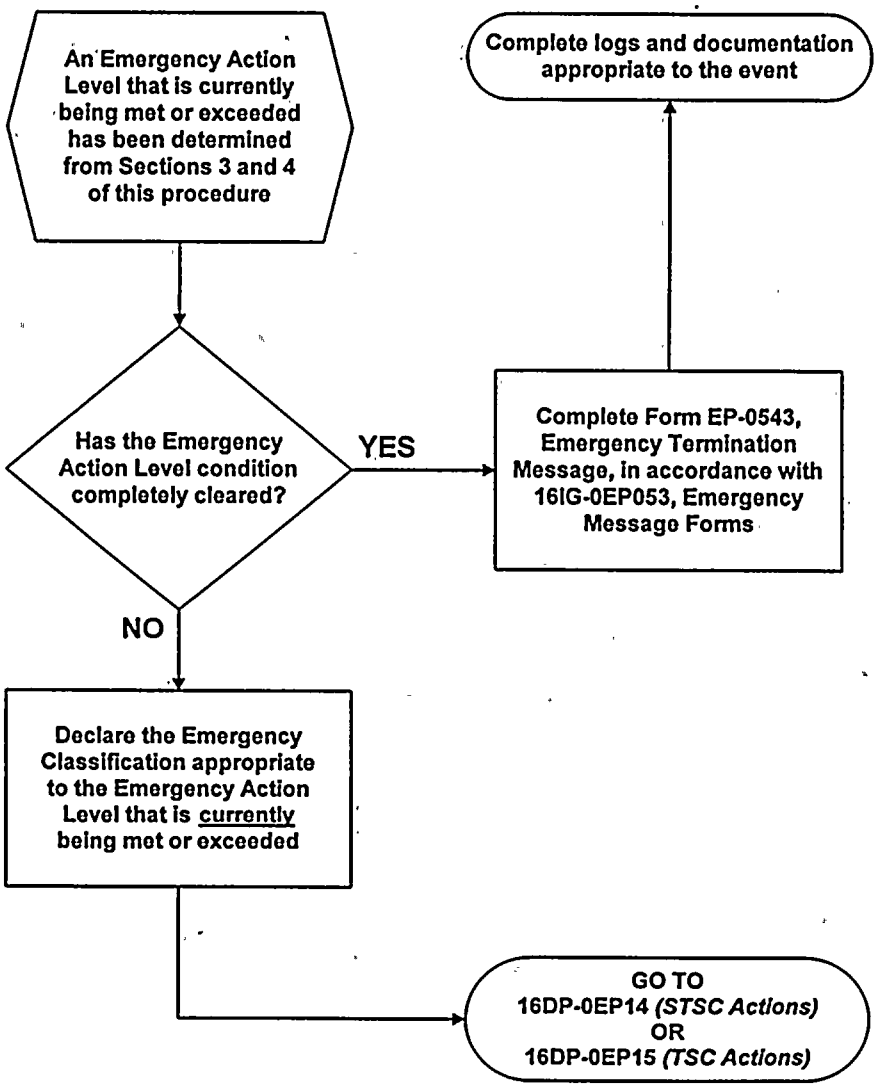
The individual should address each topic area to ensure the health and safety of plant personnel and the public are maintained and that regulatory requirements are fulfilled. The PVNGS Emergency Action Level Technical Bases Document may be used in addition to this procedure for areas where detailed guidance is desired to determine intent of a particular Emergency Action Level.

2.0 - Procedure

Instructions

___ Evaluate the fission product barrier thresholds in Section 3 and the event based Emergency Action Levels in Section 4 of this procedure for each emergency classification and determine the most accurate Emergency Action Level which is currently being met or exceeded.

___ Declare the emergency classification appropriate to the Emergency Action Level as determined by the following flowchart:



FPB SECTION 3.0 - FISSION PRODUCT BARRIER REFERENCE (MODES 1-4)

FUEL CLAD BARRIER		RCS BARRIER		CONTAINMENT BARRIER	
POTENTIAL LOSS	LOSS	POTENTIAL LOSS	LOSS	POTENTIAL LOSS	LOSS
Highest valid CET temperature > 700°F [V-3]	Highest valid CET temperature > 1200°F [V-3]	RCS leak > 44 gpm [V-10]	RCS leak rate > available makeup capacity as indicated by a loss of RCS subcooling *(i.e., RCS at saturation conditions)* [V-10]	CTMT pressure 50 psig and increasing [V-16]	Rapid unexplained CTMT pressure decrease following initial increase [V-16]
	RCS activity > 300 µCi/gm Dose Equivalent I-131 [V-4]			CTMT pressure > 8.5 psig with both CTMT Spray Systems not operating [V-16]	CTMT pressure or sump level response not consistent with LOCA conditions [V-16]
	CTMT radiation monitor: RU-148 > 1.2E+06 mrem/hr, or RU-149 > 1.8E+06 mrem/hr [V-5]			CTMT radiation monitor: RU-148 > 6.2E+09 mrem/hr, or RU-149 > 8.7E+09 mrem/hr [V-21]	Failure of both CTMT isolation valves in any one line to close and pathway to the environment exists [V-18]
RVLMS level < 21% plenum [V-7]		SGTR > 44 gpm [V-12]	SGTR > 132 gpm with a prolonged release of contaminated secondary coolant occurring from the ruptured S/G to the environment *(see Limitations in Section 1)* [V-12]		Release of contam. secondary side to atmosphere *(i.e., S/G safety or ADV)* with S/G P/S leakage > Tech Spec allowable S/G P/S leakage [V-19]
		LOAF such that minimum acceptable feedwater flow cannot be maintained [V-14]		H_2 concentration > 3.5% by volume [V-16]	
				CET > 1200°F and not restored w/i 15 min. or CET > 700°F with RVLMS < 21% plenum and not restored w/i 15 min. [V-22]	
Any condition that, in the opinion of the SS/EC, indicates loss or potential loss of Fuel Clad Barrier [V-9]		Any condition that, in the opinion of the SS/EC, indicates loss or potential loss of RCS Barrier [V-15]		Any condition that, in the opinion of the SS/EC, indicates loss or potential loss of CTMT Barrier [V-24]	

APPLY THE TABLE ABOVE TO THE LOGICS BELOW

UNUSUAL EVENT (NUE)	ALERT	SITE AREA EMERGENCY (SAE)	GENERAL EMERGENCY (GE)
Any loss OR any potential loss of Containment	Any loss OR any potential loss of either Fuel Clad or RCS	Loss of both Fuel Clad and RCS OR Potential loss of both Fuel Clad and RCS OR Potential loss of either Fuel Clad or RCS AND loss of any additional barrier	Loss of any two barriers AND Potential loss of a third barrier

ELE SECTION 4.0 - EVENT CATEGORY (MODES 1-6 AND DEFUELED UNLESS SPECIFIED)

UNUSUAL EVENT (NUE)	ALERT	SITE AREA EMERGENCY (SAE)	GENERAL EMERGENCY (GE)
IC **Loss of All Offsite Power to Essential Buses for > 15 Minutes** Loss of offsite power *(ESF XFMRs)* to both 4.16 KV Class 1E buses PBA-S03 and PBB-S04 for > 15 minutes and both Emergency Diesel Generators *(EDGs)* are supplying power to their respective 4.16 KV Class 1E buses [V-25]	IC **AC Power Capability to Essential Buses Reduced to a Single Power Source for > 15 Minutes Such That Any Additional Single Failure Would Result in Station Blackout** Either PBA-EI-S03 or PBB-EI-S04 indicates no voltage in Modes 1-4 under the following condition: Loss of offsite power *(ESF XFMRs)* to both 4.16 KV Class 1E buses PBA-S03 and PBB-S04 for > 15 minutes and one 4.16 KV Class 1E bus is powered from a single onsite power source *(EDG)* OR Loss of onsite power *(EDGs)* to both 4.16 KV Class 1E buses PBA-S03 and PBB-S04 for > 15 minutes and one 4.16 KV Class 1E bus is powered from a single offsite power source *(ESF XFMR)* [V-26]	IC **Loss of All Offsite Power and Loss of All Onsite AC Power to Essential Buses** Loss of offsite power *(ESF XFMRs)* and loss of onsite AC power *(EDGs)* to both 4.16 KV Class 1E buses PBA-S03 and PBB-S04 for > 15 minutes in Modes 1-4 [V-32]	IC **Prolonged Loss of All Offsite Power and Prolonged Loss of All Onsite AC Power** Loss of offsite power *(ESF XFMRs)* and loss of onsite AC power *(EDGs)* to both 4.16 KV Class 1E buses PBA-S03 and PBB-S04 in Modes 1-4 AND Power restoration to at least one 4.16 KV Class 1E bus within 4.5 hours is not likely or degradation of core cooling based on Fission Product Barrier monitoring is indicated [V-36]
	IC **Loss of All Offsite Power and Loss of All Onsite AC Power to Essential Buses During Cold Shutdown or Refueling Mode** Loss of offsite power *(ESF XFMRs)* and loss of onsite AC power *(EDGs)* to both 4.16 KV Class 1E buses PBA-S03 and PBB-S04 for > 15 minutes in Modes 5-6 and Defueled [V-30]		
IC **Unplanned Loss of Required DC Power During Cold Shutdown or Refueling Mode for > 15 Minutes** Unplanned loss of required 125 V Class 1E DC power *(voltage < 112 as indicated on PKA-EI-M41, PKB-EI-M42, PKC-EI-M43, and/or PKD-EI-M44)* for > 15 minutes in Modes 5-6 and Defueled [V-26]		IC **Loss of All Vital DC Power** Loss of required 125 V Class 1E DC power *(voltage < 112 as indicated on PKA-EI-M41, PKB-EI-M42, PKC-EI-M43, and/or PKD-EI-M44)* for > 15 minutes in Modes 1-4 [V-34]	

RAD-1 SECTION 4.0 - EVENT CATEGORY (MODES 1-6 AND DEFUELED UNLESS SPECIFIED)

UNUSUAL EVENT (NUE)	ALERT	SITE AREA EMERGENCY (SAE)	GENERAL EMERGENCY (GE)
IC Any Unplanned Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds Two Times the Radiological Technical Specifications for 60 Minutes or Longer ♦ Per 74RM-9EF41: Confirmed Plant Vent sample analysis or valid reading on Plant Vent RU-143 CH-1 indicating > 1.22E-03 µCi/cc sustained for 60 minutes or longer OR Valid dose assessment indicates > 1000 mrem/year Total Body Dose at the Site Boundary [V-38]	IC Any Unplanned Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds 200 Times the Radiological Technical Specifications for 15 Minutes or Longer ♦ Per 74RM-9EF41: Confirmed Plant Vent sample analysis or valid reading on Plant Vent RU-143 CH-1 indicating > 1.22E-02 µCi/cc sustained for 15 minutes or longer OR Valid dose assessment indicates > 10000 mrem/year Total Body Dose at the Site Boundary [V-53]	IC Boundary Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity that Exceeds 100 mR Whole Body or 500 mR Child Thyroid for the Actual or Projected Duration of the Release ♦ Per 74RM-9EF41: Confirmed Plant Vent sample analysis or valid reading on Plant Vent RU-144 CH-1 indicating > 2.20E-01 µCi/cc sustained for 15 minutes or longer OR Valid dose assessment indicates > 100 mrem/hr External EDE at the Site Boundary OR Valid dose assessment indicates > 1.00E+06 mrem/year Total Body Dose at the Site Boundary [V-66]	IC Boundary Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity that Exceeds 1000 mR Whole Body or 5000 mR Child Thyroid for the Actual or Projected Duration of the Release Using Actual Meteorology ♦ Per 74RM-9EF41: Confirmed Plant Vent sample analysis or valid reading on Plant Vent RU-144 CH-1 indicating > 2.20E+00 µCi/cc sustained for 15 minutes or longer OR Valid dose assessment indicates > 1000 mrem/hr External EDE at the Site Boundary OR Valid dose assessment indicates > 1.00E+07 mrem/year Total Body Dose at the Site Boundary [V-72]
IC Any Unplanned Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds Two Times the Radiological Technical Specifications for 60 Minutes or Longer ♦ Per 74RM-9EF41: Confirmed Fuel Bldg. sample analysis or valid reading on Fuel Bldg. RU-145 CH-1 indicating > 3.12E-03 µCi/cc sustained for 60 minutes or longer OR Valid dose assessment indicates > 1000 mrem/year Total Body Dose at the Site Boundary [V-41]	IC Any Unplanned Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds 200 Times the Radiological Technical Specifications for 15 Minutes or Longer ♦ Per 74RM-9EF41: Confirmed Fuel Bldg. sample analysis or valid reading on Fuel Bldg. RU-146 CH-1 indicating > 1.13E-01 µCi/cc sustained for 15 minutes or longer OR Valid dose assessment indicates > 10000 mrem/year Total Body Dose at the Site Boundary [V-55]	IC Boundary Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity that Exceeds 100 mR Whole Body or 500 mR Child Thyroid for the Actual or Projected Duration of the Release ♦ Per 74RM-9EF41: Confirmed Fuel Bldg. sample analysis or valid reading on Fuel Bldg. RU-146 CH-1 indicating > 1.96E+00 µCi/cc sustained for 15 minutes or longer OR Valid dose assessment indicates > 100 mrem/hr External EDE at the Site Boundary OR Valid dose assessment indicates > 1.00E+06 mrem/year Total Body Dose at the Site Boundary [V-68]	IC Boundary Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity that Exceeds 1000 mR Whole Body or 5000 mR Child Thyroid for the Actual or Projected Duration of the Release Using Actual Meteorology ♦ Per 74RM-9EF41: Confirmed Fuel Bldg. sample analysis or valid reading on Fuel Bldg. RU-146 CH-2 indicating > 1.96E+01 µCi/cc sustained for 15 minutes or longer OR Valid dose assessment indicates > 1000 mrem/hr External EDE at the Site Boundary OR Valid dose assessment indicates > 1.00E+07 mrem/year Total Body Dose at the Site Boundary [V-79]

♦ If the monitor reading is sustained for longer than the time frame specified and required assessments cannot be completed within this period, then the declaration must be made based on the valid reading

RAD-2 SECTION 4.0 - EVENT CATEGORY (MODES 1-6 AND DEFUELED UNLESS SPECIFIED)

UNUSUAL EVENT (NUE)	ALERT	SITE AREA EMERGENCY (SAE)	GENERAL EMERGENCY (GE)
IC Any Unplanned Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds Two Times the Radiological Technical Specifications for 60 Minutes or Longer Unplanned radioactivity release which results in Site Boundary dose rates > 2 x ODCM Section 3.0, 4.0, and 5.0 limits as measured with portable instrumentation [V-44]	IC Any Unplanned Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds 200 Times the Radiological Technical Specifications for 15 Minutes or Longer Unplanned radioactivity release which results in Site Boundary dose rates > 20 x ODCM Section 3.0, 4.0, and 5.0 limits as measured with portable instrumentation [V-57]		
IC Any Unplanned Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds Two Times the Radiological Technical Specifications for 60 Minutes or Longer Site Boundary dose rate > 0.1 mrem/hr Deep Dose Equivalent as measured with portable instrumentation [V-46]	IC Any Unplanned Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds 200 Times the Radiological Technical Specifications for 15 Minutes or Longer Site Boundary dose rate > 1.0 mrem/hr Deep Dose Equivalent as measured with portable instrumentation [V-59]	IC Boundary Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity that Exceeds 100 mR Whole Body or 500 mR Child Thyroid for the Actual or Projected Duration of the Release Site Boundary dose rate > 100 mrem/hr Deep Dose Equivalent as measured with portable instrumentation OR Valid dose assessment indicates > 100 mrem/hr TEDE or > 500 mrem/hr thyroid CDE at the Site Boundary [V-70]	IC Boundary Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity that Exceeds 1000 mR Whole Body or 5000 mR Child Thyroid for the Actual or Projected Duration of the Release Using Actual Meteorology Site Boundary dose rate > 1000 mrem/hr Deep Dose Equivalent as measured with portable instrumentation OR Valid dose assessment indicates > 1000 mrem/hr TEDE or > 5000 mrem/hr thyroid CDE at the Site Boundary [V-81]

RAD-3 SECTION 4.0 - EVENT CATEGORY (MODES 1-6 AND DEFUELED UNLESS SPECIFIED)

UNUSUAL EVENT (NUE)	ALERT	SITE AREA EMERGENCY (SAE)	GENERAL EMERGENCY (GE)
IC **Unexpected Increase in Plant Radiation or Airborne Concentration** Unexpected increase by a factor of 1000 over normal levels in valid direct area radiation monitor readings within the unit [V-48] *(normal levels comprise the highest reading in the past 24 hours excluding the current peak value)*	IC **Release of Radioactive Material or Increases in Radiation Levels within the Facility that Impedes Operation of Systems Required to Maintain Safe Operations or to Establish or Maintain Cold Shutdown** Valid readings on the associated radiation monitor in any of the following areas required to maintain plant safety functions which are: (1) > 15 mR/hr: RU-18 Control Room RU-18 Secondary Alarm Station OR (2) > 5000 mR/hr: RU-18 Remote Shutdown Panels RU-155 Main Steam Support Structure RU-153c Auxiliary Bldg. 100' East RU-23 Chemistry Hot Laboratory RU-19 Fuel Building [V-61]		
IC **Unexpected Increase in Plant Radiation or Airborne Concentration** Uncontrolled water level decrease *(as indicated by associated level alarms, sumps, or by visual indication)* in the reactor refueling cavity, spent fuel pool, and/or fuel transfer canal with all irradiated fuel assemblies remaining covered by water [V-50]	IC **Major Damage to Irradiated Fuel or Loss of Water Level that Has or Will Result in the Uncovering of Irradiated Fuel Outside the Reactor Vessel** Major damage to irradiated fuel or indication of loss of water level in the reactor refueling cavity, spent fuel pool, and/or fuel transfer canal *(i.e., level < 132.5 ft. elevation as indicated by associated level alarms, sumps, or by visual indication)* such that the uncovering of irradiated fuel *(outside the reactor vessel)* has or will occur AND Valid high radiation alarm on the associated radiation monitor exists: RU-16, RU-31, RU-33, RU-143, or RU-145 [V-64]		
IC **Fuel Clad Degradation** RCS specific activity > Technical Specification allowable limits [V-52]			

LEA

SECTION 4.0 - EVENT CATEGORY (MODES 1-6 AND DEFUELED UNLESS SPECIFIED)

UNUSUAL EVENT (NUE)	ALERT	SITE AREA EMERGENCY (SAE)	GENERAL EMERGENCY (GE)
IC RCS Leakage Unidentified or pressure boundary leakage > 10 gpm in Modes 1-4 [V-83]			
IC RCS Leakage Identified leakage > 25 gpm in Modes 1-4 [V-83]			

MAL-1 SECTION 4.0 - EVENT CATEGORY (MODES 1-6 AND DEFUELED UNLESS SPECIFIED)

UNUSUAL EVENT (NUE)	ALERT	SITE AREA EMERGENCY (SAE)	GENERAL EMERGENCY (GE)
	IC Failure of Reactor Protection System Instrumentation to Complete or Initiate an Automatic Reactor Scram Once a Reactor Protection System Setpoint Has Been Exceeded and Manual Scram Was Successful Failure of RPS to initiate or complete an automatic reactor shutdown *(i.e., subcritical)* once an RPS setpoint has been met or exceeded and manual shutdown was successful when in Modes 1-2 [V-89] *(manual shutdown includes reactor trip pushbuttons and/or removal of power to CEDMCS Bus from the Control Room)*	**IC Failure of Reactor Protection System Instrumentation to Complete or Initiate an Automatic Reactor Scram Once a Reactor Protection System Setpoint Has Been Exceeded and Manual Scram Was NOT Successful** Failure of RPS to initiate or complete an automatic reactor shutdown *(i.e., subcritical)* once an RPS setpoint has been met or exceeded and manual shutdown was not successful when in Modes 1-2 [V-96]	**IC Failure of Reactor Protection System to Complete an Automatic Scram and Manual Scram Was NOT Successful and There Is an Indication of an Extreme Challenge to the Ability to Cool the Core** Failure of RPS to complete an automatic reactor shutdown *(i.e., subcritical)* and manual shutdown was not successful when in Modes 1-2 AND CET > 1200°F, or RVLMS < 21% plenum, or minimum acceptable feedwater flow cannot be maintained [V-102]
	IC Inability to Maintain Plant in Cold Shutdown Loss of any function or system which precludes the ability to maintain Cold Shutdown and a temperature increase has occurred that either exceeds 210°F or results in an uncontrolled temperature rise approaching 210°F when in Modes 5-6 [V-91]	**IC Loss of Water Level in the Reactor Vessel that Has or Will Uncover Fuel in the Reactor Vessel** Loss of reactor vessel water level that has or will uncover fuel in the reactor vessel when in Modes 5-6 *(RE: 4xAO-xZZ22 and Safety Analysis Operational Data)* [V-96]	
		IC Complete Loss of Function Needed to Achieve or Maintain Hot Shutdown Loss of any function *(i.e., heat removal, reactivity control)* or system which precludes the ability to achieve or maintain Hot Shutdown when in Modes 1-4 [V-99]	

MAL-2 SECTION 4.0 - EVENT CATEGORY (MODES 1-6 AND DEFUELED UNLESS SPECIFIED)

UNUSUAL EVENT (NUE)	ALERT	SITE AREA EMERGENCY (SAE)	GENERAL EMERGENCY (GE)
IC **Unplanned Loss of Most or All Safety System Annunciation or Indication in the Control Room for > 15 Minutes** Unplanned loss of most or all safety system annunciation for > 15 minutes requiring increased monitoring while in Modes 1-4 and compensatory indications are available [V-84]	IC **Unplanned Loss of Most or All Safety System Annunciation or Indication in the Control Room with Either (1) a Significant Transient in Progress, or (2) Compensatory Non-Alarming Indicators are Unavailable** Unplanned loss of most or all safety system annunciation for > 15 minutes requiring increased monitoring while in Modes 1-4 and either compensatory indications are unavailable or a significant transient is in progress [V-93]	IC **Inability to Monitor a Significant Transient in Progress** Loss of most or all safety system annunciation with a significant transient in progress while in Modes 1-4. Compensatory indications and indications needed to monitor safety functions are both not available [V-100]	
IC **Inability to Reach Required Shutdown Within Technical Specification Limits** Inability to reach required shutdown conditions within the Tech Spec LCO allowable Action Statement time limits while in Modes 1-4 [V-86]			
IC **Unplanned Loss of All Onsite or Offsite Communications Capabilities** Loss of all offsite communications capability from the Control Room/STSC. This includes normal PBX, dedicated lines, ringdown lines, ENS, NAN primary, and NAN radio [V-87] IC **Unplanned Loss of All Onsite or Offsite Communications Capabilities** Loss of all onsite communications capability affecting the ability to perform routine operations. This includes normal PBX, plant page system, two-way radio, and sound powered phone system [V-87]			

HAZ-1 SECTION 4.0 - EVENT CATEGORY (MODES 1-6 AND DEFUELED UNLESS SPECIFIED)

UNUSUAL EVENT (NUE)	ALERT	SITE AREA EMERGENCY (SAE)	GENERAL EMERGENCY (GE)
IC Fire Within Protected Area Boundary Not Extinguished Within 15 Minutes of Detection Fire affecting major structures or areas within the Protected Area not extinguished within 15 minutes of Control Room notification or Control Room alarm verification [V-104]	IC Fire or Explosion Affecting the Operability of Plant Safety Systems Required to Establish or Maintain Safe Shutdown Fire or explosion affecting safety systems required for the current operating Mode as indicated by degraded performance or as indicated by plant personnel reporting visible damage *(i.e., deformation, scorching)* to permanent structures or equipment [V-114]		
IC Natural and Destructive Phenomena Affecting the Protected Area Explosion affecting the Protected Area resulting in visible damage *(i.e., deformation, scorching)* to permanent structures or equipment [V-106]			
	IC Control Room Evacuation Has Been Initiated Entry into 4xAO-xZZ27 or 4xAO-xZZ44 for Control Room evacuation [V-116]	IC Control Room Evacuation Has Been Initiated and Plant Control Cannot Be Established Evacuation of Control Room and control not established locally at the Remote Shutdown Panel within 15 minutes [V-128]	
IC Natural and Destructive Phenomena Affecting the Protected Area Vehicle/aircraft crash or missile impact into plant structures or systems within the Protected Area [V-107]	IC Natural and Destructive Phenomena Affecting the Plant Vital Area Vehicle/aircraft crash or missile impact affecting plant vital areas [V-117]		
	IC Natural and Destructive Phenomena Affecting the Plant Vital Area Visible structural damage to any building containing safe shutdown equipment [V-118]		

HAZ-2 SECTION 4.0 - EVENT CATEGORY (MODES 1-6 AND DEFUELED UNLESS SPECIFIED)

UNUSUAL EVENT (NUE)	ALERT	SITE AREA EMERGENCY (SAE)	GENERAL EMERGENCY (GE)
IC Release of Toxic or Flammable Gases Deemed Detrimental to Safe Operation of the Plant Release of toxic or flammable gases that could enter the Site Boundary and deemed detrimental to safe operation of the plant [V-108]	IC Release of Toxic or Flammable Gases Within a Facility Structure Which Jeopardizes Operation of Systems Required to Maintain Safe Operations or to Establish or Maintain Cold Shutdown Toxic or flammable gas within a facility structure affecting operation of safety systems required for the current operating Mode or is life threatening to personnel within those structures per site Fire Department analyses [V-120]		
IC Natural and Destructive Phenomena Affecting the Protected Area Main turbine failure causing casing penetration or damage to turbine oil seals or generator seals [V-109]	IC Natural and Destructive Phenomena Affecting the Plant Vital Area Main turbine failure generating missiles which result in visible damage to structures containing safety related equipment [V-122]		
IC Natural and Destructive Phenomena Affecting the Protected Area Valid "Strong Motion Accelerometer System Trigger" indicated on Seismic Warning Panel per 79IS-9SM01 [V-110]	IC Natural and Destructive Phenomena Affecting the Plant Vital Area Confirmed earthquake > OBE levels per 79IS-9SM01 such that preliminary analysis indicates OBE validity [V-124]		
IC Natural and Destructive Phenomena Affecting the Protected Area Tornado affecting the Protected Area [V-112]	IC Natural and Destructive Phenomena Affecting the Plant Vital Area Sustained winds > 105 mph *(design levels)* or tornado with average winds > 300 mph *(design basis)* per 4xAO-xZZ58 [V-125]		
IC Natural and Destructive Phenomena Affecting the Protected Area Flooding affecting the Protected Area [V-113]	IC Natural and Destructive Phenomena Affecting the Plant Vital Area Flooding potentially affecting safety systems required for the current operating Mode [V-127]		

SEC SECTION 4.0 - EVENT CATEGORY (MODES 1-6 AND DEFUELED UNLESS SPECIFIED)

UNUSUAL EVENT (NUE)	ALERT	SITE AREA EMERGENCY (SAE)	GENERAL EMERGENCY (GE)
IC Confirmed Security Event Which Indicates a Potential Degradation in the Level of Safety of the Plant Declared Security Color Code Condition - Red *(Security Emergency)* indicating a potential degradation in the level of safety of the plant [V-130]	IC Security Event in a Plant Protected Area Security event within the Protected Area *(RE: 40AC-0OP07)* [V-131]	IC Security Event in a Plant Vital Area Security event within any vital area *(RE: 40AC-0OP07)* [V-132]	IC Security Event Resulting in Loss of Ability to Reach and Maintain Cold Shutdown Security event resulting in the loss of ability to reach and maintain Cold Shutdown from the Control Room or Remote Shutdown Panel [V-134]

MIS SECTION 4.0 - EVENT CATEGORY (MODES 1-6 AND DEFUELED UNLESS SPECIFIED)

UNUSUAL EVENT (NUE)	ALERT	SITE AREA EMERGENCY (SAE)	GENERAL EMERGENCY (GE)
IC Natural and Destructive Phenomena Affecting the Protected Area Control Room assessment that an event has occurred affecting the Protected Area [V-135]	IC Natural and Destructive Phenomena Affecting the Plant Vital Area Control Room assessment that an event has occurred affecting the plant vital areas [V-138]		
IC Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of an Unusual Event Other conditions exist which, in the judgment of the SS/EC, indicate a potential degradation of the level of safety of the plant [V-136]	IC Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of an Alert Other conditions exist which, in the judgment of the SS/EC, indicate that plant safety systems may be degraded and that increased monitoring of plant functions is warranted [V-139]	IC Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of a Site Area Emergency Other conditions exist which, in the judgment of the SS/EC, indicate actual or likely major failure of plant functions needed for protection of the public [V-140]	IC Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of a General Emergency Other conditions exist which, in the judgment of the SS/EC, indicate: (1) actual or imminent substantial core degradation with potential for loss of CTMT, or (2) potential for uncontrolled radionuclide releases that can reasonably be expected to exceed EPA PAG plume exposure levels outside the Site Boundary [V-141]