



PLANT OPERATING MANUAL

VOLUME XIII

PLANT EMERGENCY PROCEDURE

UNIT  
0



**0PEP-02.1**

***INITIAL EMERGENCY ACTIONS***

REVISION 48

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## 1.0 PURPOSE

This procedure should be implemented by the Shift Superintendent or his alternate as described in Step 5.0 upon recognition of an off-normal condition to assist in determining whether an event should be classified as an emergency.

## 2.0 REFERENCES

- 2.1 OPEP-03.8.2, Personnel Accountability and Evacuation
- 2.2 OPEP-03.9.2, First Aid and Medical Care
- 2.3 OPEP-03.9.3, Transport of Contaminated Injured Personnel
- 2.4 OPEP-03.9.6, Search and Rescue
- 2.5 OPEP-03.1.3, Use of Communications Equipment
- 2.6 OPEP-02.1.1 Emergency Control - Notification of Unusual Event, Alert, Site Area Emergency, and General Emergency
- 2.7 ORCI-06.1, Reportable Event Evaluation Criteria and Processing
- 2.8 OOI-01.07, Notifications
- 2.9 BSEP Technical Specifications
- 2.10 OE&RC-2020, Setpoint Determinations For Gaseous Radiation Monitors
- 2.11 OPFP-013, General Fire Plan
- 2.12 OPEP-03.4.7, Automation of Off-Site Dose Projection Procedures
- 2.13 BSEP Off-Site Dose Calculation Manual (ODCM)
- 2.14 NEI 97-03, Methodology for Development of Emergency Action Levels
- 2.15 NUREG-1022, Revision 1, Event Reporting Guidelines: 10 CFR50.72 and 50.73
- 2.16 NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

### 3.0 GENERAL

- 3.1 This procedure should be implemented upon the identification of any off-normal condition.
- 3.2 Implementation of this procedure does not constitute an emergency but rather serves as a guideline for evaluation of plant conditions and comparisons with Emergency Action Levels (EALs).
- 3.3 Once implemented, this procedure shall remain in effect until:
- 3.3.1 All EAL criteria are determined to be less than event classification threshold values;

**AND**

- 3.3.2 The off-normal conditions have been resolved.

### 4.0 DEFINITIONS/ABBREVIATIONS

- 4.1 SEC - Site Emergency Coordinator
- 4.2 SRO - Senior Reactor Operator
- 4.3 Adequate core cooling - Heat removal from the reactor sufficient to prevent rupturing the fuel clad. Four viable mechanisms of adequate core cooling exist within the EOPs:
- Core submergence
  - Steam cooling with injection of makeup water to the reactor
  - Steam cooling without injection of makeup water to the reactor
  - Reactor water level at jet pump suction with at least one core spray pump injecting into the reactor vessel at 4700 gpm.
- 4.4 Primary Containment Operability
- 4.4.1 All penetrations required to be closed during accident conditions are either:
1. Capable of being closed by an operable automatic containment isolation system, or
  2. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except as provided in technical specifications;
- 4.4.2 The primary containment air lock is operable, except as provided in technical specifications;

## 4.0 DEFINITIONS/ABBREVIATIONS

- 4.4.3 All equipment hatches are closed; and
- 4.4.4 The sealing mechanism associated with a penetration (e.g., welds, bellows, or O-rings) is operable.
- 4.4.5 Containment leakage rates are within the limits of technical specifications.
- 4.5 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.
- 4.6 Fission Product Barrier Loss - Fission product barrier loss is indicated by one of the following conditions:
  - 4.6.1 Failed fuel causing RCS activity greater than 300  $\mu\text{Ci/g}$  I-131 dose equivalent.
  - 4.6.2 Loss of primary coolant boundary;
    - 1. Loss of coolant accident (Step 01.02.01 of Attachment 1),
    - 2. Major steam line break (Step 02.02.01 of Attachment 1),
  - 4.6.3 Loss of primary containment operability. A release path has been established.
- 4.7 TOXIC GASES - A gas that is dangerous to life or health by reason of inhalation or skin contact (e.g. chlorine). Asphyxiants can also become toxic in large enough quantities (e.g.  $\text{CO}^2$ ).
- 4.8 VALID - An indication, report, or condition is considered valid when it is 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 reports accuracy is removed. Implicit in this definition is the need for timely assessment.
- 4.9 UNPLANNED - A parameter change or an event that is not the result of an intended evolution and requires corrective or mitigative actions.

## 5.0 RESPONSIBILITIES

- 5.1 The Shift Superintendent or alternate has immediate and unilateral authority to carry out this procedure. He may delegate specific steps as necessary, but shall not delegate the responsibility for classification of an event.
- 5.2 A Senior Reactor Operator is a qualified alternate to implement this procedure if the Shift Superintendent is not available.

**NOTE:** Attachment 2 at the end of this procedure provides a flowchart that addresses the SEC actions once an event has been declared.

## 6.0 INSTRUCTIONS

**NOTE:** There may be cases in which a plant condition that exceeded an EAL threshold was not recognized at the time of occurrence, but is identified well after the condition has occurred (e.g., as a result of routine log or record review) and the condition no longer exists. In these cases, an emergency should not be declared. Normal reporting requirements (e.g., 10 CFR 50.72) are applicable in these cases. (ref. NEI 97-03).

**NOTE:** "\*" denotes decisions or actions which should be entered in the Shift SRO Log.

**NOTE:** The following actions are to be carried out in an expeditious manner for personnel and plant protection and emergency classification.

- 6.1 Ensure appropriate Emergency Operating Procedures and plant procedures are implemented concurrently.
- 6.2 If conditions require building or localized plant area evacuation:
  - \* 6.2.1 Sound Building Evacuation alarm for 15 seconds and announce over the Plant PA System "(state emergency condition) in the (location). Evacuate the (location)."

**EXAMPLE:** "Attention all personnel, there is a Radiation Alarm in the Radwaste Building, Evacuate the Radwaste Building."

## 6.0 INSTRUCTIONS (Continued)

- 6.2.2 Implement OPEP-03.8.2, Personnel Accountability and Evacuation (Building or Area Evacuation Section); direct affected personnel to report to their work group supervisor and direct work group supervisors to inform the Shift Superintendent of any personnel not accounted for within 30 minutes.
- 6.2.3 Repeat the PA announcement.
- 6.3 If personnel injuries have occurred:
  - 6.3.1 Notify the Fire Brigade.
  - 6.3.2 Determine number of persons injured and their location(s).
  - 6.3.3 Implement OPEP-03.9.2, First Aid and Medical Care; OPEP-03.9.3, Transport of Contaminated Injured Personnel; or OPEP-03.9.6, Search and Rescue as appropriate.
  - 6.3.4 Determine whether injuries involve radioactive contamination.

### CAUTION

Priority should be placed on lifesaving injury treatment over the need to decontaminate. See OPEP-03.9.2 for guidance.

- 6.4 If a fire has been reported, implement OPFP-013, General Fire Plan.

**NOTE:** The revision dates, annotated in the top right corner of the EAL flowpaths, depict the date of the most recent change to the flowpath and the OERP and OPEP-02.1 revisions that were in effect at that time.

- 6.5 Using EAL flowpaths or Attachment 1, compare plant conditions (observed or indicated parameters and conditions) with the EALs and classify the emergency.
  - 6.5.1 The EAL flowpath can be entered at any point if the event is known. (Example: fuel handling accident.) This point should be noted to ensure that all other events are evaluated prior to exiting the flowpath.

If the event is not known, enter at Point A.

## 6.0 INSTRUCTIONS (Continued)

- 6.5.2 If no emergency action level threshold is exceeded go to Step 6.6.
- 6.5.3 If, at any time, an emergency classification is warranted, the Site Emergency Coordinator is to immediately declare the appropriate classification and carry out the associated actions in accordance with OPEP-02.1.1, Emergency Control - Notification of Unusual Event, Alert, Site Area Emergency, and General Emergency. (The highest level emergency classification for the conditions will be declared.)
- 6.6 Continue to monitor and evaluate plant conditions in accordance with previous steps until off-normal conditions are returned to normal.
- 6.7 Review RCI-06.1 and OOI-01.07 to determine reporting requirements.
- 6.8 A turnover checklist may be used to ensure that all essential tasks are completed; however, such a checklist shall not be used to replace this procedure.

**NOTE:** When operations are restored to within normal operating parameters and safe in the judgment of the Shift Superintendent, terminate use of this procedure.

**NOTE:** Notify the Maintenance Rule Program Engineer of any Emergency Action Level entry due to equipment failure.



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**Emergency Action Levels**

Section	Event Category	Page No.
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Emergency Action Levels

**1.0 Abnormal Primary Leak Rate**

**1.1 Notification of Unusual Event**

01.01.01 Reactor Coolant System total leakage greater than 25 gpm averaged over the previous 24-hour period using the sum of drywell equipment drain integrator (G16-FQ-K603) and drywell floor drain integrator (G16-FQ-K601), and the leakage rate has not been reduced to less than 25 gpm within eight hours, or plant shutdown is not achieved within required time period.

**OR**

01.01.02 Unidentified Reactor Coolant System leakage greater than 5 gpm averaged over the previous 24-hour period using the drywell floor drain integrator (G16-FQ-K601), and the leakage rate has not been reduced to less than 5 gpm within eight hours, or plant shutdown is not achieved within required time period.

**1.2 Alert**

01.02.01 Small break LOCA with primary system leakage greater than 50 gpm. A LOCA is indicated by a significant loss of reactor inventory to the drywell resulting in increased drywell pressure, temperature, and/or sump pump usage indicated by:

- Low or falling Reactor Coolant System pressure with rising drywell pressure and temperature (C32-R608, CAC-PI-2685-1, CAC-TR-4426-1A, CAC-TR-4426-1B, CAC-TR-4426-2A and CAC-TR-4426-2B).

**1.3 Site Area Emergency**

01.03.01 Loss of coolant accident requiring the initiation of Low Pressure Coolant Injection, Core Spray, or the Automatic Depressurization System, **AND REQUIRED FOR ADEQUATE CORE COOLING.**

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**Emergency Action Levels**

**1.0 Abnormal Primary Leak Rate (Continued)**

**1.4 General Emergency**

01.04.01 Loss of coolant accident requiring the initiation of Low Pressure Coolant Injection, Core Spray, or Automatic Depressurization System, **AND REQUIRED FOR ADEQUATE CORE COOLING;**

**AND**

Inability to provide makeup water to the Reactor Coolant System (i.e., failure of HPCI, Core Spray A and B, RHR Loops A and B, RCIC, condensate, and feedwater) as indicated by falling or low reactor vessel level with attempts to inject water not successful.

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**Emergency Action Levels**

**2.0 Steam Line Break or Safety/Relief Valve Failure**

**2.1 Notification of Unusual Event**

02.01.01 Reactor Coolant System pressure  $\geq$  1250 psig.

**OR**

02.01.02 Inability to close an SRV with Reactor Coolant System pressure  $\leq$  900 psig.

**2.2 Alert**

02.02.01 Main Steam, HPCI or RCIC steam line break inside the primary containment without (full) line isolation valve closure.

**2.3 Site Area Emergency**

02.03.01 Main Steam, HPCI or RCIC steam line break outside primary containment and line isolation valve(s) fail to close indicated by valid area radiation and/or temperature alarms.

**2.4 General Emergency**

02.04.01 N/A

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Emergency Action Levels

**3.0 Abnormal Core Conditions and Core Damage**

**3.1 Notification of Unusual Event**

03.01.01 Liquid

- A. Reactor Coolant System (RCS) activity greater than 4.0  $\mu\text{Ci/gm}$  I-131 dose equivalent.
- B. RCS activity greater than 0.2  $\mu\text{Ci/gm}$  I-131 dose equivalent but less than limit above for more than 48 hours.

03.01.02 Gaseous

- A. Steam jet air ejector off-gas radiation monitor (D12-RM-K601A and B) reading of greater than  $1.2 \times 10^4$  mR/hr.
- B. Steam jet air ejector off-gas radiation monitor (D12-RM-K601A and B) increase of greater than  $2.4 \times 10^3$  mR/hr in 30 minutes.

**3.2 Alert**

03.02.01 Liquid

Reactor coolant activity greater than 300  $\mu\text{Ci/gm}$  I-131 dose equivalent.

03.02.02 Gaseous

Steam jet air ejector off-gas radiation monitor (D12-RM-K601A and B) reading of greater than  $1.2 \times 10^5$  mR/hr.

**3.3 Site Area Emergency**

- 03.03.01 Reactor Coolant System activity is greater than 4000  $\mu\text{Ci/gm}$  I-131 dose equivalent.

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**Emergency Action Levels**

**3.0 Abnormal Core Conditions and Core Damage (Continued)**

**3.4 General Emergency**

03.04.01 Any two functional high range drywell radiation monitors  
(D22-RI-4195, 4196, 4197, and 4198) reading greater than 5000 R/hr.

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**Emergency Action Levels**

**4.0 Abnormal Radiological Effluent or Radiation Levels**

**4.1 Notification of Unusual Event**

04.01.01 Liquid Release

Any unplanned release from the liquid waste system resulting in activity levels in the discharge canal greater than those in 10CFR20, Appendix B, Table II, Column 2.

04.01.02 Gaseous Release

Any gaseous release which exceeds the dose limit specified in ODCM 7.3.7 (i.e., exceeding the noble gas instantaneous dose rate limit as evaluated by OE&RC-2020).

04.01.03 Any building evacuation based on confirmed radiological conditions (i.e., greater than 10 dac airborne [except precautionary evacuations]).

**4.2 Alert**

04.02.01 Liquid Release

Any liquid release resulting in activity concentration levels in the discharge canal that are greater than 10 times those given in 10CFR20, Appendix B, Table II, Column 2 (10 times the concentration listed in Unusual Event).

04.02.02 Gaseous Release

Any gaseous release which exceeds 10 times the dose rate limit specified in ODCM 7.3.7 (i.e., exceeding 10 times the noble gas instantaneous dose rate limit as evaluated by OE&RC-2020).

04.02.03 In-Plant Leak or Spill

Unplanned, valid direct area radiation (gamma and/or neutron) reading(s) increase by a factor of 1000 over normal levels.

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**4.0 Abnormal Radiological Effluent or Radiation Levels (Continued)**

**4.3 Site Area Emergency**

- 04.03.01 Projected dose exceeding 50 mRem Whole body (TEDE) **OR** exceeding 250 mRem Thyroid (CDE) at site boundary.
- 04.03.02 Measured dose rate exceeding 100 mR/hr at site boundary.
- 04.03.03 Measured I-131 dose equivalent concentration exceeds  $3.9E-7$   $\mu\text{Ci/cc}$  at the site boundary.

**4.4 General Emergency**

- 04.04.01 Offsite release resulting in a dose exceeding one (1) Rem Whole Body (TEDE) **OR** five (5) Rem Thyroid (CDE) at the Site Boundary as indicated by dose projection or field data.
- 04.04.02 Measured I-131 Dose Equivalent concentration exceeding  $3.9E-6$   $\mu\text{Ci/cc}$  at the site boundary.



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**5.0 Loss of Shutdown Functions: Decay Heat and Reactivity**

**5.1 Notification of Unusual Event**

05.01.01 N/A

**Alert**

05.02.01 Complete loss of ability to maintain plant in cold shutdown:

1. Loss of essential service water loops, or Loss of RHR Loops A and B.

**AND**

2. Loss of Condenser Condensate System.

**AND**

3. Either:

- a. Coolant temperature exceeds 212°F,

**OR**

- b. Uncontrolled temperature rise approaching 212°F.

05.02.02 Failure of the Reactor Protection System to initiate and complete a scram, indicated on Panel A-5, which brings the reactor to a subcritical condition as indicated by full core display panel P603 and neutron monitoring instruments (APRM and IRM).

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**5.0 Loss of Shutdown Functions: Decay Heat and Reactivity (Continued)**

**5.3 Site Area Emergency**

05.03.01 Failure of the Reactor Protection System to initiate and complete a scram as indicated by Section 05.02.02 above.

**AND**

Failure of standby liquid control to bring the reactor to a subcritical condition.

05.03.02 Complete loss of reactor heat removal capability indicated by inability to maintain Suppression Pool below Heat Capacity Temperature Limit curve.

**5.4 General Emergency**

05.04.01 Site Area Emergency as indicated in Section 05.03.01 above lasting greater than 30 minutes.

**AND**

Loss of main condenser heat removal capability indicated by MSIVs shut or loss of vacuum on condenser vacuum indicator.

**AND EITHER**

1. Failure of all low pressure coolant injection trains indicated on panel P601.

**OR**

2. Failure of all service water trains necessary for decay heat removal indicated on panel P601 (RHR Service Water) and Panel XU2 (Nuclear and Conventional Service Water).

05.04.02 Containment pressure approaching Primary Containment Pressure Limit (PCPL), and containment venting will be required within the next six (6) hours.

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**6.0 Electrical or Power Failures**

**6.1 Notification of Unusual Event**

06.01.01 Inability to power either 4 kV E Bus from off-site power.

**OR**

06.01.02 Loss of all on-site AC power capability indicated by failure of diesel generators to start or synchronize.

**6.2 Alert**

06.02.01 Loss of all vital DC power.

**OR**

06.02.02 Inability to power either 4 kV E Bus from off-site power.

**AND**

Loss of all on-site AC power capability indicated by failure of diesel generators to start or synchronize.

**6.3 Site Area Emergency**

06.03.01 Either Alert condition in Section 06.02.01 or 06.02.02 listed above **AND** lasting longer than 15 minutes.

**6.4 General Emergency**

06.04.01 N/A

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**Emergency Action Levels**

**7.0 Fire**

**7.1 Notification of Unusual Event**

07.01.01 Fire located in or adjacent to the areas listed below **NOT** extinguished within 15 minutes of alarm verification or Control Room notification.

Areas:

Emergency Diesel Generator Building  
Control Building  
Central Alarm Station/Secondary Alarm Station  
Reactor Building  
Turbine Building  
Unit Intake Structures  
Service Water Building

**7.2 Alert**

07.02.01 Fire which could potentially affect vital safety-related equipment.

**7.3 Site Area Emergency**

07.03.01 Any fire that impairs the operability of any vital equipment which, in the opinion of the Site Emergency Coordinator, is essential to maintain the plant in a safe condition.

**7.4 General Emergency**

07.04.01 Any fire which in the opinion of the Site Emergency Coordinator could cause massive common damage to plant systems.

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**8.0 Control Room Evacuation**

**8.1 Notification of Unusual Event**

08.01.01 N/A

**8.2 Alert**

08.02.01 Evacuation of Control Room anticipated or required with control of shutdown established from local stations.

**8.3 Site Area Emergency**

08.03.01 Evacuation of Control Room **AND** local control of shutdown is not established in 15 minutes.

**8.4 General Emergency**

08.04.01 N/A

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Emergency Action Levels

**9.0 Loss of Monitors or Alarms or Communication Capability**

**9.1 Notification of Unusual Event**

09.01.01 Site communications capability impaired as determined by loss of all of the following:

1. Both site Private Branch Exchanges (PBX's)
2. All private phone lines (not routed through Plant Branch Exchange; Control Room, Security, Site Vice President Office)
3. Selective Signaling
4. Decision Line
5. State and Local emergency management radio system
6. Cellular phone system access
7. Satellite telephone

09.01.02 Unplanned loss of most or all annunciators on Panels P601, P603, XU-1, XU-2, XU-3, XU-51, and XU-80 for > 15 minutes with the affected unit in Mode 1, 2, or 3;

**AND**

Compensatory (non-alarming) indications are available.

**9.2 Alert**

09.02.01 Unplanned loss of most or all annunciators on Panels P601, P603, XU-1, XU-2, XU-3, XU-51, and XU-80 for > 15 minutes with the affected unit in Mode 1, 2, or 3;

**AND**

Either;

- Compensatory (non-alarming) indications are **NOT** available.

**OR**

- A plant transient is in progress.

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**9.0 Loss of Monitors or Alarms or Communication Capability (Continued)**

**9.3 Site Area Emergency**

09.03.01 Unplanned loss of most or all annunciators on Panels P601, P603, XU-1, XU-2, XU-3, XU-51, and XU-80 with the affected unit in Operational Condition 1, 2, or 3;

**AND**

- Compensatory (non-alarming) indications are NOT available.

**AND**

- A plant transient is in progress.

**AND**

- Plant safety function indications (reactor power, reactor level, reactor pressure, containment parameters) are **NOT** available.

**9.4 General Emergency**

09.04.01 N/A

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**10.0 Fuel Handling Accident**

**10.1 Notification of Unusual Event**

10.01.01 N/A

**10.2 Alert**

10.02.01 Fuel handling accident involving damage to new or spent fuel indicated by:

A. Observation/report **AND** alarm on:

1. Process Reactor Building ventilation RAD monitor D12-K609A, B or D12-RR-R605.

**OR**

2. Reactor Building roof ventilation monitor CAC-AIQ-1264-3.

**OR**

3. Refuel floor area monitor ARM channel 1-28 or 2-28.

**10.3 Site Area Emergency**

10.03.01 Major damage to spent fuel indicated by:

A. Observation of substantial damage to multiple fuel assemblies, or observation that water level has dropped below the top of the fuel.

**AND**

B. Indications or alarms listed in Attachment 1, Section 10.02.01.A above.

**10.4 General Emergency**

10.04.01 N/A



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**11.0 Security Threats**

**11.1 Notification of Unusual Event**

11.01.01 A credible site-specific security threat. Corresponds to a Security Alert as defined by the Security Contingency Plan.

**11.2 Alert**

11.02.01 Imminent threat to plant safety requiring prompt Security response. Corresponds to a Security Emergency as defined by the Security Contingency Plan.

**11.3 Site Area Emergency**

11.03.01 Physical attack on the plant involving imminent occupancy of the Control Room, auxiliary shutdown panels, or other vital areas.

**11.4 General Emergency**

11.04.01 Physical attack on the plant has resulted in unauthorized personnel occupying the Control Room or other vital areas.

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**Emergency Action Levels**

**12.0 Fission Product Barriers and Specific LCOs**

**12.1 Notification of Unusual Event**

- 12.01.01 Loss of containment operability requiring shutdown by Technical Specifications and shutdown is not achieved within required time period.
- 12.01.02 Loss of engineered safety feature requiring shutdown by Technical Specifications and shutdown is not achieved within required time period.

**12.2 Alert**

- 12.02.01 Loss of either Fuel Clad or the Reactor Coolant Boundary.

**12.3 Site Area Emergency**

- 12.03.01 Loss of two-out-of-three fission product barriers.

**12.4 General Emergency**

- 12.04.01 Loss of any two-out-of-three fission product barriers with a potential loss of the third barrier.

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**13.0 Hazards to Plant Operations**

**13.1 Notification of Unusual Event**

- 13.01.01 Aircraft crash within site boundaries with the potential to endanger safety-related equipment.
- 13.01.02 Unplanned explosion within the site boundaries with the potential to endanger safety-related equipment.
- 13.01.03 Release of toxic or flammable gas that could endanger personnel.
- 13.01.04 Turbine rotating component failure causing rapid plant shutdown.

**13.2 Alert**

- 13.02.01 Explosion, aircraft crash, or missile resulting in major damage to structures housing safety-related systems.
- 13.02.02 Unplanned and uncontrolled entry of toxic or flammable gases into vital areas in sufficient quantities to endanger personnel or the operability of safety-related equipment.
- 13.02.03 Turbine failure causing penetration of its outer casing.

**13.3 Site Area Emergency**

- 13.03.01 Explosion, aircraft crash, or missile resulting in major damage to safe shutdown equipment with plant not in cold shutdown.
- 13.03.02 Uncontrolled entry of flammable or toxic gases into vital areas where lack of access constitutes a safety problem with plant not in cold shutdown.

**13.4 General Emergency**

- 13.04.01 Any major internal or external event substantially beyond design basis which could cause massive common damage to plant systems.

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**14.0 Natural Events**

**14.1 Notification of Unusual Event**

- 14.01.01 Alarm on seismic monitor AND confirmation of earthquake.
- 14.01.02 Hurricane warning issued.
- 14.01.03 Tornado on site.

**14.2 Alert**

- 14.02.01 Earthquake registering greater than 0.08g on seismic instrumentation.
- 14.02.02 Any adverse weather conditions that causes a loss of function of two or more safety trains.
- 14.02.03 Tornado striking inside protected area resulting in major damage to structures housing safety-related systems.
- 14.02.04 Hurricane winds on site estimated:
  - 1.  $\geq 130$  mph at 30 ft above ground level
  - 2.  $\geq 180$  mph at 300 ft above ground level

**14.3 Site Area Emergency**

- 14.03.01 Earthquake registering greater than 0.16g on seismic instrumentation with plant not in cold shutdown.
- 14.03.02 Flood, low water, or hurricane surge greater than design levels or failure to protect vital equipment at lower levels and plant not in cold shutdown.
- 14.03.03 Plant not in cold shutdown with hurricane winds on site estimated:
  - 1.  $\geq 130$  mph at 30 ft above ground level
  - 2.  $\geq 180$  mph at 300 ft above ground level

ATTACHMENT 1  
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**Emergency Action Levels**

**14.0 Natural Events (Continued)**

**14.4 General Emergency**

14.04.01 Any major natural event substantially beyond design basis which could cause massive common damage to plant systems.

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**Emergency Action Levels**

**15.0 Shift Superintendent/Site Emergency Coordinator Judgments**

When any condition exists which indicates a necessity for an increased level of awareness or readiness above previous plant conditions, the Shift Superintendent/Site Emergency Coordinator should use his judgment to declare the appropriate emergency status for the plant.

**15.1 Notification of Unusual Event**

15.01.01 Plant conditions exist that warrant increased awareness by plant staff such as exceeding any Technical Specification safety limit.

**15.2 Alert**

15.02.01 Plant conditions exist that reflect a significant degradation in the safety of the reactor, but releases from this event would be small.

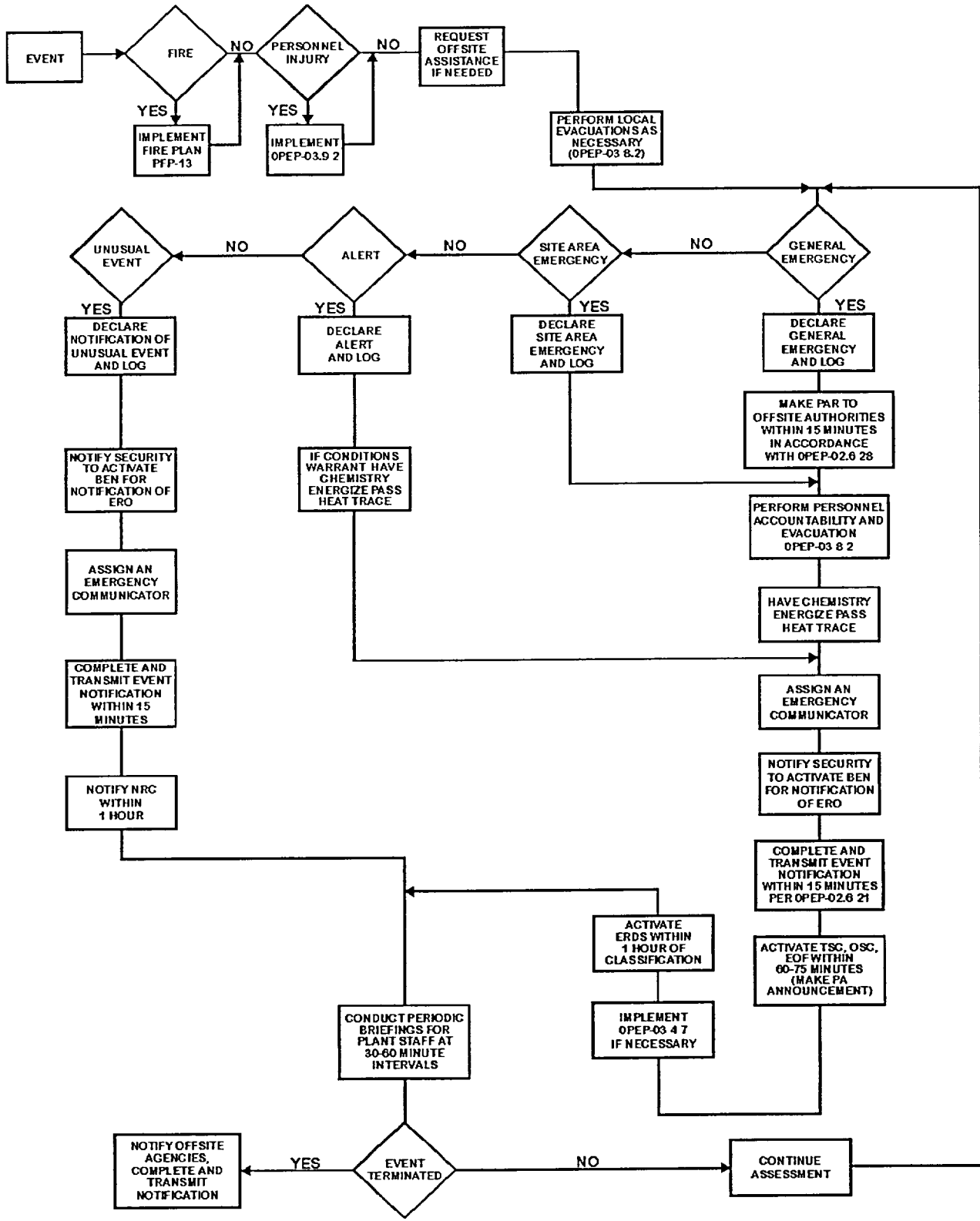
**15.3 Site Area Emergency**

15.03.01 Plant conditions exist that involve major failures of equipment and that will lead to core damage. Unless corrective action is taken, significant radiation releases may occur.

**15.4 General Emergency**

15.04.01 Plant conditions exist that make a release of a large amount of radioactivity in a short time possible; any core melt situation.

ATTACHMENT 2  
Page 1 of 1  
Site Emergency Coordinator Actions Flow Chart



## REVISION SUMMARY

Revision 48 of OPEP-02.1 consists of the following changes:

- Added NUREG-0654 as a reference in Section 2.16.
- Corrected chemistry units from  $\mu\text{Ci/ml}$  to  $\mu\text{Ci/gm}$  in Sections 3.1, 3.2, and 3.3 to be consistent with Technical Specifications and Chemistry data reports.
- Revised Section 4.3 definition for "Adequate core cooling" to be consistent with definition in EOP User Guide.
- Added definition for Fission Product Barrier Loss as Section 4.6.
- Added definitions for "Valid" and "Unplanned" as Sections 4.8 and 4.9.
- Reworded information describing fire reporting activities in Section 6.4 due to redundancy with General Fire Plan.
- Corrected "REP" to "OERP" in Section 6.4 note.
- Corrected title of OPEP-02.1.1 in Section 6.5.3.
- Renumbered all initiating conditions in Attachment 1 with six-digit numbering scheme as an identifier to tie procedure text to EAL Flow Chart 1 and 2 information for user friendliness.
- Revised EALs in Attachment 1, Sections 1.3, 1.4, 2.2, 2.3, 2.4, 3.2, 3.3, 3.4, 4.2, 5.3, 5.4, 7.1, 9.1, 9.2, 11.3, 11.4, 12.2, 12.3, 12.4, and 14.3 for editorial changes, enhancements, and clarifications, where appropriate, using the technical bases provided for example EALs contained in NUMARC/NESP-007, "Methodology for Development of Emergency Action Levels" and guidance in Regulatory Guide 1.101, Emergency Preparedness for Nuclear Power Reactors (Revision 3). Revision also included a title change from "Specific LCOs" to "Fission Product Barriers and Specific LCOs" in Section 12.0 and relocation of fission product barrier information to Section 12.0 to improve assessment evaluation.
- Revised EALs in Attachment 1, Sections 11.1 and 11.2 based on information in NRC Security Advisory on security threats.

Revision 48 of the EAL Flowcharts, Pages 1 and 2 consists of the following changes:

- Changed EAL flow paths for Fire, Loss of Monitors or Alarms or Communications Capability, Security Threats, Fission Product Barriers and Specific LCOs, Main Steam Line Break, Abnormal Primary Leak Rate, and Loss of Shutdown Function: Decay Heat and Reactivity, to reflect EAL changes in OPEP-02.1, Attachment 1.
- Corrected typographical errors and changed format, as necessary, to improve user friendliness without changing intent.
- Added additional information in flowpaths for Abnormal Radiological Effluent or Radiation Levels, Hazards to Plant Operations, Natural Events, and Shift Superintendent/Site Emergency Coordinator Judgments for consistency with OPEP-02.1 text.
- Renumbered initiating conditions with six-digit numbering scheme as identifier to tie flow path to OPEP-02.1, Attachment 1, for user friendliness.