

CLASSIFICATION OF EMERGENCIES

TABLE OF CONTENTS

| <u>SECTION</u> | <u>PAGE</u> |
|--------------------|-------------|
| 1.0 OBJECTIVE | 2 |
| 2.0 REFERENCES | 2 |
| 3.0 PREREQUISITES | 2 |
| 4.0 PRECAUTIONS | 2 |
| 5.0 CHECK-OFF LIST | 3 |
| 6.0 PROCEDURE | 3 |
| 7.0 RECORDS | 3 |
| 8.0 ATTACHMENTS | 3 |

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CLASSIFICATION OF EMERGENCIES

1.0 OBJECTIVE

- 1.1 This procedure is used in conjunction with S0123-VIII-11 to recognize and classify the four emergency classifications: Unusual Event, Alert, Site Emergency and General Emergency.

2.0 REFERENCES

- 2.1 SONGS - 1, 2 & 3 Emergency Plan.
- 2.2 SONGS - 1 Operating Procedures
- 2.3 Title 10, code of Federal Regulations Part 50, Appendix E.
- 2.4 NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants".
- 2.5 SONGS - 1 Tech Specs.

3.0 PREREQUISITES

- 3.1 An off-normal event has occurred and has been verified by using redundant instrument channels, comparison to other related plant parameters, physical observations, and field measurements, as applicable.

4.0 PRECAUTIONS

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

5.0 CHECK-OFF LIST

- 5.1 None.

6.0 PROCEDURE

- 6.1 The use of this procedure is in conjunction with S0123-VIII-11, "RECOGNITION AND CLASSIFICATION OF EMERGENCIES", as a reference document to verify Emergency Action Levels (EAL's).

7.0 RECORDS

7.1 None

8.0 ATTACHMENTS

8.1 Attachment 8.1, "Classification Matrix."

8.2 Attachment 8.2, "Loss of RCS Inventory Instruments".

8.3 Attachment 8.3, "Unit 1 Safety Systems".

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UNCONTROLLED RELEASE OF RADIOACTIVITY

UNUSUAL EVENT

EAL

TAB A1

1. For Modes 1-6:
Any of the below listed process and effluent monitors meeting the following conditions:
- a) A valid Hi Alarm
AND
 - b) Radiological Effluent Technical Specifications tabulated below are exceeded
AND
 - c) The release path is not isolated

| <u>MONITOR</u> | <u>DESCRIPTION</u> | <u>TECHNICAL SPECIFICATION</u> |
|----------------|--------------------|--------------------------------|
| R-1214 | Stack Gas Monitor | 2E5 CPM |
| | OR | |
| R-1223 | Stack Gas Monitor | 5E4 uCi/sec |

NOTE: See attachment 8.4 for the relationship between the high alarm and MPC on the Radioactive Waste Release Permit (RWRP).

2. For Modes 1-6:
Any of the below listed process and effluent monitors meeting the following conditions:
- a) A valid Hi Alarm
AND
 - b) Radiological effluent technical specifications exceeded
AND
 - c) The release path is not isolated.

| <u>MONITOR</u> | <u>DESCRIPTION</u> | <u>TECHNICAL SPECIFICATION</u> |
|----------------|--|--------------------------------|
| R-1218 | Radioactive Waste System Liquid Effluent | 1E6 CPM |

UNCONTROLLED RELEASE OF RADIOACTIVITY

ALERT

TAB A2

EAL

1. For Modes 1-6:
Any of the below listed process and effluent monitors meeting the following conditions:

- (a) A valid Hi Alarm
- AND
- (b) A valid sample exceeding 10 times the Radiological Effluent Technical Specifications tabulated below
- AND
- (c) The release path is not isolated

| <u>MONITOR</u> | <u>DESCRIPTION</u> | <u>10 TIMES TECHNICAL SPECIFICATION</u> |
|----------------|--------------------|---|
| R-1214 | Stack Gas Monitor | 2E6 CPM |
| R-1223 | Stack Gas Monitor | 5E5 $\frac{\mu\text{Ci}}{\text{sec}}$ |

OR

UNCONTROLLED RELEASE OF RADIOACTIVITY

ALERT

TAB A2

EAL

2. For Modes 1-6:
Any of the below listed process and effluent monitors meeting the following conditions:

- (a) A valid Hi Alarm
- AND
- (b) A valid sample exceeding 10 times the radiological effluent technical specifications tabulated below
- AND
- (c) The release path is not isolated.

| <u>MONITOR</u> | <u>DESCRIPTION</u> | <u>10 TIMES TECHNICAL SPECIFICATION</u> |
|----------------|--|---|
| R-1218 | Radioactive Waste System Liquid Effluent | 1E7 CPM (By Sample) |

3. For Modes 1-6:
A valid unexpected area radiation monitor alarm as listed below
- AND
- A valid unexpected area monitor reading as listed below, or if full scale, verified field survey readings at the monitor location as listed below:

| <u>Monitor</u> | <u>Description</u> | <u>Reading 1000 X Normal</u> |
|----------------|---|----------------------------------|
| R-1231 | Control Room High Radiation | >1 R/hr |
| R-1232 | Containment Sphere High Radiation | >500 R/hr |
| R-1233 | Radio-Chem. Lab High Radiation | >5 R/hr |
| R-1234 | Reactor Auxiliary Building High Radiation | >20 R/hr |
| R-1235 | Sampling Room High Radiation | >20 R/hr |
| R-1236 | Spent Fuel Building High Radiation | >25 R/hr |
| R-1237 | Cryogenic System Building High Radiation | >2 R/hr. |

UNCONTROLLED RELEASE OF RADIOACTIVITY

ALERT

TAB A2

EAL

4. For Modes 1-6:
Any unanticipated plant area iodine or particulate airborne concentration greater than or equal to 1000 x MPC as determined by radiological survey (see 10 CFR 20, Appendix B table II).
5. For Modes 1-6:
Reported spent fuel handling accident concurrent with the applicable alarm from any of the following radiation monitors:
- | | |
|--------|------------------------------------|
| R-1236 | Spent Fuel Building High Radiation |
| | <u>OR</u> |
| R-1232 | Containment Sphere High Radiation |
| | <u>OR</u> |
| R-1214 | Stack Gas Monitor |
| | <u>OR</u> |
| R-1219 | Stack Gas Monitor |
| | <u>OR</u> |
| R-1223 | Stack Gas Monitor |
6. For Modes 1-4:
Steam line break or any other steam discharge concurrent with a primary to secondary leak that exceeds 10 gpm as determined by:
- | | |
|--------|--|
| PI-459 | Uncontrolled transient in steam generator pressure and steam line pressure |
| | <u>AND</u> |
| R-1256 | East Main Steam Line Radiation Monitor Alarm, <u>OR</u> |
| R-1258 | West Main Steam Line Radiation Monitor Alarm |
| | <u>AND</u> |
| R-1215 | Main Condenser Air Ejector Gas Monitor Alarm |
- CAUTION
=====
- The Main Condenser Air Ejector Gas monitor Alarm Criteria will only be applicable if the alarm is received AND the steam flow has not been terminated to the turbine-generator or main condenser.

UNCONTROLLED RELEASE OF RADIOACTIVITY

ALERT

TAB A2

EAL

7. For Modes 1-6:
An unmonitored gaseous release which is suspected to have exceeded 10 times MPC Limits as determined by field sampling and radioanalysis.
8. For Modes 1-6:
An unmonitored liquid release which is suspected to have exceeded 10 times MPC limits as determined by field sampling and radioanalysis.
9. For Modes 1-6:
Radiological Effluent release for which the doses projected at the site Boundary for the expected duration of the release at the site boundary are between 2-50 mrem Whole body
OR
Between 50-500 mrem thyroid.

UNCONTROLLED RELEASE OF RADIOACTIVITY

SITE EMERGENCY

TAB A3

EAL

1. For Modes 1-6:
Source term determination shows equivalent Xe-133 release rate greater than 1.1 Ci/sec for 0.5 hr
OR
greater than 10.6 Ci/sec for 2 minutes.
2. For Modes 1-6:
Source term determination equivalent I-131 release rate greater than 1.0 E-4 Ci/sec. for 0.5 hr
OR
1.0 E-3 Ci/sec for 2 minutes.
3. For Modes 1-6:
Radiological monitoring teams measure whole body dose rates at the exclusion area boundary greater than 50 mR/hr for 0.5 hr,
OR
greater than 500 mR/hr for 2 minutes.
4. For Modes 1-6:
Radiological monitoring teams measure thyroid dose rates (equivalent I-131 concentrations) at the exclusion area boundary greater than 250 mR/hr for 0.5 hr (7.0 E-7 mCi/cc)
OR
2.5 R/hr for 2 minutes (7.0 E-6 mCi/cc).
5. For Modes 1-6:
Reported major spent fuel damage concurrent with greater than 10 times the alarm setpoint indication on any of the following radiation monitors:

| | | |
|--------|------------------------------------|-----------|
| R-1236 | Spent Fuel Building High Radiation | |
| R-1232 | Containment Sphere High Radiation | <u>OR</u> |
| R-1214 | Stack Gas Monitor | <u>OR</u> |
| R-1223 | Stack Gas Monitor | <u>OR</u> |

UNCONTROLLED RELEASE OF RADIOACTIVITY

SITE EMERGENCY

TAB A3

EAL

6. For Modes 1-6:
Uncontrolled decrease in spent fuel pool water level to below level of irradiated fuel as determined by the Spent Fuel Pit Level Low Alarm (RP Annunciator #68) concurrent with full scale indication on R-1236 - Spent Fuel Building High Radiation Monitor.
7. For Modes 1-4:
Steam line break or any other steam discharge concurrent with a primary to secondary leak of greater than 50 gpm complicated by indication of failed fuel as determined by:
- (a) uncontrolled transient in steam generator pressure/level and steam line pressure (PI-459)
AND
 - (b) East Main Steam Line Radiation Monitor Alarm, OR
 - (c) West Main Steam Line Radiation Monitor Alarm
AND
 - (d) R-1215 Main Condenser Air Ejector Gas Monitor
- CAUTION
=====
- The Main Condenser Air Ejector Gas Monitor Alarm criteria will only be applicable if the alarm is received and steam flow has not been terminated to the turbine-generator or main condenser.
- AND
- (e) RCS dose equivalent I-131 greater than 1.0 uCi/gm determined by the most recent chemical analysis results.
8. For Modes 1-6:
Radiological Effluent releases which corresponds to doses projected at the site Boundary for the expected duration of the release for greater than 50 mrem whole body but less than 500 mrem whole body
OR
greater than 500 mrem thyroid but less than 5000 mrem thyroid at the site boundary.

UNCONTROLLED RELEASE OF RADIOACTIVITY

GENERAL EMERGENCY

TAB A4

EAL

Any one of the following conditions:

1. For Modes 1-6:
Dose projections or radiation levels measured in the environs indicate levels corresponding to or exceeding 0.5 Rem/hr whole body at the Exclusion Area Boundary.
2. For Modes 1-6:
Dose projections or radiation levels measured in the environs indicate levels corresponding to or exceeding 5 Rem/hr thyroid at the Exclusion Area Boundary.
3. For Modes 1-6:
Any Radiological effluent releases which corresponds to doses projected at the Site Boundary for the expected duration of the release are greater than 500 mrem whole body
OR
5000 mrem thyroid at the site boundary under actual meteorological conditions.

LOSS OF RCS INVENTORY

UNUSUAL EVENT

TAB BI

EAL

1. For Modes 1, 2, 3, and 4 Only:
Reactor Coolant System (RCS) leakage greater than any one of the following Technical Specification Limits, but less than 50 gpm.
 - (a) 1 gpm unidentified leakage.
 - (b) 6 gpm identified leakage.
 - (c) 0.3 gpm RCS ^{OR} to Secondary leakage through any S/G.
 - (d) 140 gpd (0.1 ^{OR} gpm) increase in RCS to Secondary leakage within 24 hours in any S/G.
 - (e) In excess of 215 gpd (0.15 ^{OR} gpm) RCS to Secondary leakage in any S/G.
 - (f) 15 gpd (0.01 ^{OR} gpm) increase in RCS to Secondary leakage when RCS to Secondary leakage is above 140 gpd.

NOTE: See attachment 8.2 for instrumentation that aids in determining RCS leakage.

LOSS OF RCS INVENTORY

ALERT

TAB B2

EAL

1. For Modes 1, 2, 3, and 4 Only:
Reactor Coolant System (RCS) leakage greater than 50 gpm, but less than the maximum available makeup capacity of the charging system.

NOTE: See attachment 8.2 for instrumentation that aids in determining RCS leakage.

LOSS OF RCS INVENTORY

SITE EMERGENCY

TAB B3

EAL

1. For Modes 1-4:
Reactor Coolant System (RCS) leakage greater than the available charging pump capacity (Loss of Coolant Accident-LOCA). If Emergency operating Procedure S01-1.1-6, "Loss of Reactor Coolant" has been activated, this Emergency Action Level (EAL) is valid.

NOTE See attachment 8.2 for instrumentation that aids in determining RCS leakage.

LOSS OF RCS INVENTORY

GENERAL EMERGENCY

TAB B4

EAL

1. For Modes 1-4:
Any Loss of Coolant Accident (LOCA) as covered in Emergency Operating Procedure S01-1.1-6, "Loss of Reactor Coolant",
AND
the loss of containment integrity as defined in Emergency Operating Instruction S01-1.2-8, "Loss of Containment Integrity",
AND
the subsequent failure of emergency heat removal systems such that significant fuel damage is probable.

NOTE:

- (a) Significant fuel damage can be determined by:
Sample analysis of the RCS, indicating the release of the Gap Activity to the primary coolant
OR
High core temperatures indicated on the core thermocouples, (> 1200 °F),
OR
Inadequate subcooling margin (0° Subcooled)
OR
The core is uncovered for a sustained period of time.
- (b) The loss of containment integrity can be determined by:
Status indication on containment penetrations,
OR
Rapidly increasing containment pressure with the failure of containment spray system,
OR
The sudden drop in containment pressures that cannot be explained by the initiation of containment spray,

DNB/DEGRADED CORE SEQUENCE

UNUSUAL EVENT

TAB CI

EAL

1. For Modes 1, 2, 3 and 4 only:
Initiation of the Safety Injection System (SIS), either by a valid safety circuit trip or a manual initiation of SIS as a corrective action to abnormal plant parameter indications
AND
A positive flow indication on FI912 or FI913 or FI914.
2. For Modes 1, 2, 3 and 4 only:
Rapid secondary depressurization due to:
A steamline break
OR
Secondary safety or relief valve failure
OR
Cold water injected into the secondary side of the steam generator, as determined by: Uncontrolled transients in the steam generator pressures indicated on PI-459 (Steamline pressure), RCS loop temperature or pressure.
3. For Modes as shown below:
Plant shutdown required due to exceeding a Technical Specification Safety limit:
 - (a) 2735 psig (RCS maximum allowable transient pressure) (modes 1-5)
 - (b) DNBR of 1.30 or less. (modes 1 and 2 only)

NOTE: Reference Technical Specification Figure 2.1.1 which represents the Loci of conditions at which a minimum DNBR of 1.30 or less would occur.
4. For Modes 1, 2, 3 and 4 only:
Reactor Coolant System (RCS) less than 30°F is indicated by subcooled TI-2010 and TI-3010 Subcooling Margin Monitor <30°F
5. For Modes 1, 2, and 3 only:
A plant shutdown has been ordered as required by:
Technical Specifications 3.1.1, "Maximum Reactor Coolant Activity"
OR
Technical Specifications 3.4.2, "Maximum Secondary Coolant Activity".

DNB/DEGRADED CORE SEQUENCE

ALERT

TAB C2

EAL

1. For Modes 1, 2 and 3 only:
Severe loss of fuel cladding verified by radiochemical analysis
indicating an increase in failed fuel greater than 1.0 percent in 30
minutes

OR

Total failed fuel greater than 5.0 percent.

2. For Modes 1, 2 and 3 only:
RCS Chemistry sample results indicate dose equivalent I-131 greater
than 300 uCi/gm

AND

The sample results are not due to iodine spiking phenomenon.

DNB/DEGRADED CORE SEQUENCE

SITE EMERGENCY

TAB C3

EAL

1. For Modes 1, 2 and 3 only:

A degraded core with possible loss of coolable geometry condition exists based on consideration of the following:

- (a) Five or more core exit thermocouples exhibit readings greater than 1200°F.
- (b) Reactor coolant loops hot let RTD's greater than 700°F.
- (c) Sufficient Safety Injection Flow is not being delivered to the core.
- (d) Sufficient Feedwater is not being delivered to intact steam generators.
- (e) Abnormal reactor coolant activity sample results. (greater than 300 μ Ci/gm equivalent I-131)
- (f) Containment radioactivity levels indicated by:

R1211 Containment Sphere Monitor High Radiation Alarm.

OR

R1232 Containment Area Monitor

DNB/DEGRADED CORE SEQUENCE

GENERAL EMERGENCY

TAB C4

EAL

1. For Modes 1-3:
Any combination of Emergency Core Cooling System (ECCS) failures such that:
Significant fuel damage is imminent or in progress
AND
Containment integrity is lost
AND
The probable loss of the reactor coolant boundary is imminent.

NOTE:

- (a) Significant fuel damage can be determined by:
- Sample analysis of the RCS indicating the release of the gap activity to the primary coolant
 - OR
 - High core temperatures indicated on the core thermocouples (>1200°F)
 - OR
 - Inadequate subcooling margin margin (0°F subcooled)
 - OR
 - The core is uncovered for a sustained period of time.
- (b) The loss of containment integrity can be determined by:
- Status indication on containment penetrations
 - OR
 - Rapidly increasing containment pressure with the failure of containment spray
 - OR
 - The sudden drop in containment pressure that cannot be explained by the initiation of containment spray
 - OR
 - A steam line break downstream of the stop valves with the stop valves indicating open
 - OR
 - A rapid decrease in containment pressure.

LOSS OF SAFETY FUNCTIONS

UNUSUAL EVENT

TAB DI

EAL

1. For Modes 1, 2, 3 and 4 only:
Loss of offsite power-(Diesel Generators are operable) as covered by
Emergency Operating Instruction S01-1.7-1, "Loss of Off-Site Power",
and indicated by the 220kV Bus under frequency alarm and system voltage
indicator low.
2. For Modes 1, 2, 3 and 4 only:
Loss of operability of both emergency diesel generators (off-site
electrical power available)
AND
at least one of the inoperable diesel generators has not been restored
to operable status within 2 hours.
3. For Modes 1 and 2 only:
A Technical Specification required shutdown due to exceeding a limiting
condition for operation as specified in Technical Specification 3.3,
"Safety Injection and Containment Spray Systems".
4. For Modes 1 - 2:
A Technical Specification required shutdown due to exceeding a Limiting
Condition for Operation as specified in Technical Specifications 3.6,
"Containment Systems".
5. For Modes 1, 2, 3 and 4:
All control room annunciators are lost for greater than 15 minutes
AND
The plant is in a stable condition.

NOTE: See EAL D25 for transient conditions.

LOSS OF SAFETY FUNCTIONS

ALERT

TAB D2

EAL

1. For Modes 1, 2, 3 and 4:
The loss of offsite electrical power as covered by Emergency Operating Instruction S01-1.7-1, "Loss of Off-Site Power",
AND
The loss of operability of both emergency diesel generators
AND
The busses remain deenergized for greater than 5 minutes.
NOTE: See EAL D31 for loss greater than 15 minutes.
2. For Modes 1, 2, 3, and 4:
Loss of onsite vital DC electrical power for greater than 5 minutes as determined by:

Low Voltage DC Bus No. 1 Alarm
AND
Low Voltage DC Bus No. 2 Alarm

NOTE: See EAL D32 for loss greater than 15 minutes.
3. For Modes 1, 2, 3, and 4:
The ability to achieve or maintain cold shutdown has been lost based on the following:

Shutdown Cooling Capability lost;
AND
Natural Circulation Cooling Capability lost;
AND
Safety Injection Capability lost.
4. For Modes 1 and 2:
The Reactor remains critical after the receipt of an automatic Reactor Protection Trip System Signal or a manual Reactor Trip Signal. In either case, the plant is in a stable condition without an uncontrolled transient involved.
5. For Modes 1, 2, 3 and 4:
All control Room annunciators are lost for greater than 5 minutes
AND
The plant is in an unstable condition (an uncontrolled transient is involved).
6. For Modes 1, 2, 3 and 4:
The evacuation of the Control Room is required and Control of the Shutdown systems is established from local stations

NOTE: See EAL D35 if Control of Shutdown Systems is not under control in 15 minutes

LOSS OF SAFETY FUNCTIONS

SITE

TAB D3

EAL

1. For Modes 1, 2, 3 only:
The loss of offsite electrical power as covered by Emergency Operating Instruction S01-1.7-1, "Loss of Off-Site Power",
AND
the loss of operability of both emergency diesel generators
AND
the busses remaining deenergized for greater than 15 minutes.
2. For Modes 1, 2, 3 only:
The loss of onsite vital DC electrical power for greater than 15 minutes as determined by:

Low Voltage DC Bus No. 1 Alarm
AND
Low Voltage DC Bus No. 2 Alarm
3. For Modes 1, 2 and 3 only:
The ability to achieve or maintain hot shutdown has been lost based on the following:

Reactor Trip Capability Lost (Modes 1 and 2 only):
AND
Emergency Boration Capability Lost;
AND
Steam Dump Capability Lost;
AND
Feedwater Capability Lost;
AND
Safety Injection Capability Lost.
4. For Modes 1 and 2:
The reactor remains critical after the receipt of a Reactor Protection Trip signal or a manual Reactor Trip signal and the Plant is in an uncontrolled transient.
5. For Modes 1 - 4:
The Control Room has been evacuated
AND
control of shutdown systems has NOT been established from the local stations within 15 minutes.

LOSS OF SAFETY FUNCTIONS

GENERAL EMERGENCY

TAB D4

1. For Modes 1-3:
Any combination of Loss of Safety Functions such that:
Significant fuel damage is imminent or in progress
AND
The Loss of the reactor coolant boundary has occurred
AND
The loss of the containment integrity is probable.

NOTE:

- (a.) Significant fuel damage can be determined by:
Sample analysis of the RCS indicating the release of the Gap activity to the primary coolant
OR
High core temperatures indicated on the core thermocouples (>1200°F)
OR
Inadequate subcooling margin (0°F Subcooled)
OR
The core uncovered for a significant period of time.
- (b.) The Loss of Containment integrity can be determined by:
Status indication on containment penetrations
OR
Rapidly increasing containment pressure with a failure of the containment spray system
OR
A steam line break downstream of the stop valves with the stop valves indicating open
OR
A rapid decrease in containment pressure.

CATASTROPHES

UNUSUAL EVENT

TAB E1

EAL

1. For Modes 1-6:
Fire within the Protected Area which is not brought under control within 10 minutes after verification
OR
Any fire within the Owner Controlled Area which requires offsite assistance.
2. For Modes 1, 2, 3 and 4:
Valid receipt of window 78, SMA-3 "Seismic Trigger Alarm."
OR
Valid receipt of window 80 "Offsite Seismic Trigger Alarm"
OR
Notification by Unit 2 that Seismic Instrumentation has been activated.
3. For Modes 1, 2, 3 and 4:
A tsunami that breaches the sea wall or any in-plant flooding condition which causes damage that precludes the operation of any systems listed in Attachment 8.3.
4. For Modes 1, 2, 3 and 4: Any tornado striking site which causes damage that precludes the operation of any systems listed in Attachment 8.3.
5. For Modes 1, 2, 3 and 4
Site comes under hurricane force winds (i.e., sustained winds in excess of 74 mph) which causes damage that precludes the operation of any systems listed in Attachment 8.3.

CATASTROPHES

UNUSUAL EVENT

TAB E1

EAL

6. For Modes 1, 2, 3 and 4:
Aircraft crash onsite which causes damage that precludes the operation of systems listed in Attachment 8.3.
7. For Modes 1, 2, 3 and 4:
Train derailment which causes damage that precludes the operation of any systems listed in Attachment 8.3.
8. For Modes 1, 2, 3 and 4:
An onsite explosion, which causes damage that precludes the operation of any systems listed in Attachment 8.3.
9. For Modes 1, 2, 3 and 4:
Any flammable gas releases which if ignited would damage any of the systems listed in Attachment 8.3.
OR
Any gas release which prevents required access for safe operation of any system listed in Attachment 8.3.
10. For Modes 1 and 2:
A failure of turbine rotating component causing rapid plant shutdown as determined by:
 - a. High vibration turbine trip,
AND
 - b. Rapid loss of condenser vacuum;
AND
 - c. Verified conductivity alarms.

CATASTROPHES

ALERT

TAB E2

EAL

1. For Modes 1-6:
A fire which damages equipment such that the capability to achieve or maintain cold shutdown is lost.*
2. For Modes 1-6:
An earthquake recording greater than .33 g. ground acceleration,
OR
Valid receipt of 61C22, "Operating Basis Earthquake Acceleration" alarm.
NOTE: The information required to activate this EAL will be obtained from Unit 2/3 Shift Supervisor.
3. For Modes 1-5:
A Tsunami or a hurricane surge that breeches the seawall or any other flooding that damages equipment such that the capability to achieve or maintain cold shutdown is lost.*
4. For Modes 1-5:
Any tornado that damages equipment such that the capability to achieve or maintain cold shutdown is lost.*
5. For Modes 1-5:
Any sustained hurricane force winds (greater than 74 mph, but less than 100 mph) that damages equipment such that the capability to achieve or maintain cold shutdown is lost.*
6. For Modes 1-5:
Any aircraft crash or any missile impact that damages equipment such that the capability to achieve or maintain cold shutdown is lost.*
7. For Modes 1-5:
Any explosion that damages equipment such that the capability to achieve or maintain cold shutdown is lost.*
8. For Modes 1-5:
Any uncontrolled toxic or flammable gas such that the capability to achieve or maintain cold shutdown is lost.*
9. For Modes 1 and 2:
Massive turbine rotating component failure causing casing penetration and projection of turbine blading.

* The ability to achieve or maintain cold shutdown has been lost is based on the following:

Shutdown Cooling Capability is lost;
AND
Natural Circulation Cooling Capability is lost;
AND
Safety Injection Capability is lost.

CATASTROPHES

SITE EMERGENCY

TAB E3

EAL

1. For Modes 1-4:
Fire within the plant which damages equipment such that the capability to achieve or maintain hot shutdown is lost.*
2. For Modes 1-4:
An earthquake which damages equipment such that the capability to achieve or maintain hot shutdown is lost.*
3. For Modes 1-4:
Any flood or tsunami or hurricane surge, which causes severe damage to equipment such that the capability to achieve or maintain hot shutdown is lost.*
4. For Modes 1-4:
Any tornado which causes severe damage to equipment such that the capability to achieve or maintain hot shutdown is lost.*
5. For Modes 1-4:
Hurricane winds (in excess of 100 mph) which cause severe damage to equipment such that the capability to achieve or maintain hot shutdown is lost.*
6. For Modes 1-4:
Any aircraft crash or missile impact or explosion which causes severe damage to equipment such that the capability to achieve or maintain hot shutdown is lost.*
7. For Modes 1-4:
Toxic or flammable gases have entered the vital areas such that the Shift Supervisor has ordered a Plant evacuation.

*The ability to achieve or maintain Hot shutdown has been lost is based on the following:

Reactor trip Capability is lost (Modes 1 and 2 only);
AND
Emergency Boration Capability is lost;
AND
Steam Dump Capability is lost;
AND
Feedwater Capability is lost;
AND
Safety Injection Capability is lost.

CATASTROPHES
GENERAL EMERGENCY

TAB E4

EAL

1. For Modes 1-3:
Any catastrophe(s) which cause:
The loss of containment integrity
AND
the loss of safety systems causing significant fuel damage
AND
the loss of the RCS boundary is imminent.

NOTE:

- (a) The Loss of Containment integrity can be determined by:
Status indication on containment penetrations
OR
Rapidly increasing containment pressure with a failure of
the containment spray system
OR
A steam line break downstream of the stop valves with the
stop vales indicating open
OR
A steam break between the containment and the stop valves.
OR
A rapid decrease in containment pressure.
- (b) Significant fuel damage can be determined by:
Sample analysis of the RCS
indicating the release of the Gap activity to the primary coolant
OR
High core temperatures indicated on the core thermocouples
(>1200°F)
OR
Inadequate subcooling margin (0°F Subcooled)
OR
The core is uncovered for a significant period of time.

SECURITY COMPROMISE

UNUSUAL EVENT

TAB F1

EAL

1. For Modes 1-6:
Any Security threat, attempted entry or attempted sabotage such that security force notifies the Operations Shift Supervisor of initiation of the Security Contingency Plan.

SECURITY COMPROMISE

ALERT

TAB F2

EAL

1. For Modes 1-6:
Security force notifies the Operations Shift Supervisor of an
Ongoing Security Compromise pursuant to the SONGS Security Plan.

SECURITY COMPROMISE

SITE EMERGENCY

TAB F3

EAL

1. For Modes 1-6:
Security force notifies the Operations Shift Supervisor of the
Imminent Loss of Physical Security Control of the Plant.

SECURITY COMPROMISE

GENERAL EMERGENCY

TAB F4

EAL

1. For Modes 1-6:
Loss of physical security control of the facility.

MISCELLANEOUS

UNUSUAL EVENT

TAB G1

EAL

1. For Modes 1-6:
Transportation of personnel that are both injured
AND
externally contaminated from SONGS for treatment at a hospital.
2. For Mode 1-6:
Plant conditions exist that warrant increased awareness on the
part of:

The Plant operating staff,
AND
local off-site authorities, or state off-site authorities.
3. For Modes 1 and 2:
Other plant conditions exist which require plant shutdown under
Technical Specification requirements or involve other than normal
controlled shutdown.

MISCELLANEOUS

ALERT

TAB G2

EAL

1. For Mode 1-6:
Other plant conditions exist that warrant precautionary activation of Technical Support Center and placing emergency operations facility and other emergency personnel on standby.

MISCELLANEOUS

SITE EMERGENCY

TAB G3

EAL

1. For Mode 1-6:
Other plant conditions exist that warrant activation of Emergency Centers and a precautionary notification to the public near the site is required.

MISCELLANEOUS
GENERAL EMERGENCY

TAB G4

1. For Mode 1-6:
Other plant conditions that make a release of large amounts of
Radioactivity in a short time period possible
OR
The loss of 2 of 3 fission product barriers (fuel cladding, reactor
coolant boundary, containment) have been lost with a potential for loss
of the third barrier.

LOSS OF RCS INVENTORY INSTRUMENTS

NOTE: To verify the Emergency Action Levels (EAL), on TABS B1 through B4, use any of the following instruments:

FOR RCS TO CONTAINMENT LEAKAGE

| | |
|-------|--|
| R1211 | Containment Sphere Particulate Monitor |
| R1212 | Containment Sphere Gas Monitor |
| R1232 | Containment Sphere Area Monitor |
| L1951 | Containment Sump Level |

FOR RCS TO SECONDARY LEAKAGE

| | |
|-------|---|
| R1215 | Main Condenser Air Ejector Gas Monitor |
| R1216 | Steam Generator Blowdown Liquid Monitor |

FOR RCS TO CCW LEAKAGE

| | |
|-------|---|
| R1217 | Component Cooling System Liquid Monitor |
|-------|---|

FOR PRESSURIZER SAFETY VALVE LEAKAGE

| | |
|-----------|--|
| TIC433A | Pressurizer Relief Line PORV Temperature |
| TIC433B/C | Pressurizer Safety Relief Line Temperature |
| L1440 | Pressurizer Relief Tank Level |
| T1441 | Pressurizer Relief Tank Temperature |
| P1440 | Pressurizer Relief Tank Pressure |

UNIT 1 SAFETY SYSTEMS

1. Reactor Coolant System
2. Chemical and Volume Control System
3. Safety Injection System
4. Containment Spray Systems
5. Steam Generators and Main Steam Systems
6. Operational Safety Instrumentation
7. Containment Isolation Instrumentation
8. Accident Monitoring Instrumentation
9. Auxiliary Feedwater Instrumentation
10. Auxiliary Feedwater System
11. Feedwater System
12. Containment Sphere
13. Containment Isolation Valves
14. Auxiliary Electrical Supply
15. Continuous Power Distribution Monitoring
16. Control Room Emergency Air Treatment Cleanup System

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