

ENTERGY NUCLEAR NORTHEAST
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DOCUMENT TRANSMITTAL AND RECEIPT ACKNOWLEDGEMENT FORM

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TO: U.S.N.R.C. Document Center/Washington, DC
FROM: CATHY IZYK - EMERGENCY PLANNING DEPARTMENT
SUBJECT: EMERGENCY PLAN AND IMPLEMENTING PROCEDURES

Enclosed are revisions to your assigned copy of the JAFNPP Emergency Plan and Implementing Procedures. Please remove and **DISCARD** the old pages. Insert the attached, initial and date this routing sheet and return the completed routing sheet to **Cathy Izyk in the Emergency Planning Department within 15 days**. If this transmittal is not returned within 15 days, your name will be removed from the controlled list.

THESE PROCEDURES ARE EFFECTIVE **FRIDAY, AUGUST 8, 2003**

| VOLUME 2 Update List Dated N/A | | | |
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EMERGENCY PLAN IMPLEMENTING PROCEDURES/VOLUME 3
UPDATE LIST

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| Procedure Number | Procedure Title | Revision Number | Date of Last Review | Use of Procedure |
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| N/A | TABLE OF CONTENTS | REV. 23 | 12/98 | N/A |
| EAP-26 | PLANT DATA ACQUISITION SYSTEM ACCESS | REV. 12 | 11/02 | Informational |
| EAP-27 | ESTIMATION OF POPULATION DOSE WITHIN 10 MILE EMERGENCY PLANNING ZONE | REV. 10 | 06/02 | Informational |
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| EAP-29 | EOF VENTILATION ISOLATION DURING AN EMERGENCY | REV. 6 | 05/03 | Informational |
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| EAP-42 | OBTAINING METEOROLOGICAL DATA | REV. 20 | 06/03 | Informational |
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| SAP-2 | EMERGENCY EQUIPMENT INVENTORY | REV. 36 | 07/03 | Informational |
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EMERGENCY PLAN IMPLEMENTING PROCEDURES/VOLUME 3
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| SAP-4 | NYS/OSWEGO COUNTY EMERGENCY PREPAREDNESS PHOTO IDENTIFICATION CARDS | REV. 10 | 05/03 | Informational |
| SAP-5 | DELETED (3/98) | | | |
| SAP-6 | DRILL/EXERCISE CONDUCT | REV. 19 | 03/03 | Informational |
| SAP-7 | MONTHLY SURVEILLANCE PROCEDURE FOR ON-CALL EMPLOYEES | REV. 37 | 08/03 | Informational |
| SAP-8 | PROMPT NOTIFICATION SYSTEM FAILURE/SIREN SYSTEM FALSE ACTIVATION | REV. 13 | 12/02 | Informational |
| SAP-9 | DELETED (02/94) | | | |
| SAP-10 | METEOROLOGICAL MONITORING SYSTEM SURVEILLANCE | REV. 11 | 03/02 | Informational |
| SAP-11 | EOF DOCUMENT CONTROL | REV. 11 | 06/02 | Informational |
| SAP-13 | EOF SECURITY AND FIRE ALARM SYSTEMS DURING NORMAL OPERATIONS | REV. 4 | 06/02 | Informational |
| SAP-14 | DELETED (02/95) | | | |
| SAP-15 | DELETED (11/92) | | | |
| SAP-16 | UTILIZING EPIC IDT TERMINALS FROM DESTINY SYSTEM | REV. 4 | 06/02 | Informational |
| SAP-17 | EMERGENCY RESPONSE DATA SYSTEM (ERDS) QUARTERLY TESTING | REV. 7 | 07/00 | Informational |
| SAP-19 | SEVERE WEATHER | REV. 4 | 01/01 | Informational |
| SAP-20 | EMERGENCY PLAN ASSIGNMENTS | REV. 22 | 05/03 | Informational |
| SAP-21 | DELETED (04/01) | | | |
| SAP-22 | EMERGENCY PLANNING PROGRAM SELF ASSESSMENT | REV. 2 | 05/03 | Informational |

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

Where possible, the EALs have been made consistent with and utilize the conditions defined in the JAFNPP symptom based Emergency Operating Procedures (EOPs). While the symptoms that drive operator actions specified in the EOPs are not indicative of all possible conditions which warrant emergency classification, they do define the symptoms, independent of initiating events, for which reactor plant safety and/or fission product barrier integrity are threatened. Where these symptoms are clearly representative of one of the PEG Initiating Conditions, they have been utilized as an EAL. This allows for rapid classification of emergency situations based on plant conditions without the need for additional evaluation or event diagnosis. Although some of the EALs presented here are based on conditions defined in the EOPs, classification of emergencies using these EALs is not dependent upon EOP entry or execution. The EALs can be utilized independently or in conjunction with the EOPs.

To the extent possible, the EALs are symptom based. That is, the action level is defined by values of key plant operating parameters which identify emergency or potential emergency conditions. This approach is appropriate because it allows the full scope of variations in the types of events to be classified as emergencies. But, a purely symptom based approach is not sufficient to address all events for which emergency classification is appropriate.

Particular events to which no predetermined symptoms can be ascribed have also been utilized as EALs since they may be indicative of potentially more serious conditions not yet fully realized.

The EALs are grouped into nine categories to simplify their presentation and to promote a rapid understanding by their users. These categories are:

1. Reactor Fuel
2. Reactor Pressure Vessel
3. Primary Containment
4. Secondary Containment
5. Radioactivity Release
6. Electrical Failures
7. Equipment Failures
8. Hazards
9. Other

Categories 1 through 5 are primarily symptom based. The symptoms are indicative of actual or potential degradation of either fission product barriers or personnel safety.

Categories 6, 7 and 8 are event based. Electrical Failures are those events associated with losses of either AC or vital DC electrical power. Equipment Failures are abnormal and emergency events associated with vital plant system failures, while Hazards are those non-plant system related events which have affected or may affect plant safety.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

Category 9 provides the Emergency Director (Shift Manager) the latitude to classify and declare emergencies based on plant symptoms or events which in his judgment warrant classification. This judgment includes evaluation of loss or potential loss of one or more fission product barriers warranting emergency classification consistent with the NUMARC barrier loss criteria.

Categories are further divided into one or more subcategories depending on the types and number of plant conditions that dictate emergency classifications. For example, the Reactor Fuel category has five subcategories whose values can be indicative of fuel damage: coolant activity, off-gas activity, containment radiation, other radiation monitors and refueling accidents. An EAL may or may not exist for each sub category at all four classification levels. Similarly, more than one EAL may exist for a sub category in a given emergency classification when appropriate (i. e., no EAL at the General Emergency level but three EALs at the Notification of an Unusual Event level).

For each EAL, the following information is provided:

- Classification: Notification of an Unusual Event, Alert, Site Area Emergency, or General Emergency
- Operating Mode Applicability: One or more of the following plant operating conditions are listed: Power Operation, Startup/Hot Standby, Hot Shutdown, Cold Shutdown, Refuel and Defuel
- EAL: Description of the condition or set of conditions which comprise the EAL
- Basis: Description of the rationale for the EAL
- PEG Reference(s): PEG IC(s) and example EAL(s) from which the EAL is derived
- Basis Reference(s): Source documentation from which the EAL is derived

The identified operating modes are defined as follows:

Power Operations

Reactor is critical and the mode switch is in RUN.

Startup/Hot Standby

The mode switch is in STARTUP/HOT STANDBY.

Hot Shutdown

Mode switch is in SHUTDOWN and reactor coolant temperature is $> 212^{\circ}\text{F}$.

Cold Shutdown

Mode switch in SHUTDOWN and reactor coolant temperature is $\leq 212^{\circ}\text{F}$.

Refuel

Mode switch in REFUEL.

Defueled

RPV contains no irradiated fuel.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 21.0 REACTOR FUEL

The reactor fuel cladding serves as the primary fission product barrier. Over the useful life of a fuel bundle, the integrity of this barrier should remain intact as long as fuel cladding integrity limits are not exceeded.

Should fuel damage occur (breach of the fuel cladding integrity) radioactive fission products are released to the reactor coolant. The magnitude of such a release is dependent upon the extent of the damage as well as the mechanism by which the damage occurred. Once released into the reactor coolant, the highly radioactive fission products can pose significant radiological hazards in plant from reactor coolant process streams. If other fission product barriers were to fail, these radioactive fission products can pose significant offsite radiological consequences.

The following parameters/indicators are indicative of possible fuel failures:

- Coolant Activity: During normal operation, reactor coolant fission product activity is very low. Small concentrations of fission products in the coolant are primarily from either the fission of tramp uranium in the fuel cladding or minor perforations in the cladding itself. Any significant increase from these baseline levels is indicative of fuel failures.
- Off-gas Activity: As with coolant activity, any fuel failures will release fission products to the reactor coolant. Those products which are gaseous or volatile in nature will be carried over with the steam and eventually be detected by the air ejector off-gas radiation monitors.
- Containment Radiation Monitors: Although not a direct indication or measurement of fuel damage, exceeding predetermined limits on containment high range radiation monitors under LOCA conditions is indicative of possible fuel failures. In addition, this indicator is utilized as an indicator of RCS loss and potential containment loss.
- Other Radiation Monitors: Other process and area radiation monitoring systems are specifically designed to provide indication of possible fuel damage such as Area Radiation Monitoring Systems.
- Refueling Accidents: Both area and process radiation monitoring systems designed to detect fission products during refueling conditions as well as visual observation can be utilized to indicate loss or potential loss of spent fuel cladding integrity .

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

1.0 Reactor Fuel 1.1 Coolant Activity

1.1.1 Notification of an Unusual Event

Coolant activity > 2 $\mu\text{Ci/gm}$ I-131 equivalent

NUMARC IC:

Fuel clad degradation

FPB loss/potential loss:

N/A

Mode Applicability:

All

Basis:

Elevated reactor coolant activity represents a potential degradation in the level of safety of the plant and a potential precursor of more serious problems. This EAL addresses reactor coolant samples exceeding coolant technical specifications for iodine spiking.

PEG Reference(s):

SU4.2

Basis Reference(s):

1. [CTS]Technical Specification 3.6.C [ITS]3.4.6 and [CTS]Radiological Effluent Technical Specifications 3.5 [ITS]3.7.5

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

1.0 Reactor Fuel 1.1 Coolant Activity

1.1.2 Alert

Coolant activity > 300 $\mu\text{Ci/gm}$ I-131 equivalent

NUMARC IC:

N/A

FPB loss/potential loss:

Fuel clad loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

Elevated reactor coolant activity represents a potential degradation in the level of safety of the plant and a potential precursor of more serious problems. This amount of coolant activity is well above that expected for iodine spikes and corresponds to about 2% to 5% fuel clad damage. When reactor coolant activity reaches this level, significant clad heating has occurred and thus the fuel clad barrier is considered lost. Therefore, declaration of an Alert is warranted.

PEG Reference(s):

FC1.1

Basis Reference(s):

None

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**1.0 Reactor Fuel 1.2 Off-gas Activity****1.2.1 Notification of an Unusual Event**

off-gas radiation \geq hi-hi alarm for $>$ 15 min.

NUMARC IC:

Fuel clad degradation

FPB loss/potential loss:

N/A

Mode Applicability:

All

Basis:

Elevated off-gas radiation activity represents a potential degradation in the level of safety of the plant and a potential precursor of more serious problems. The Technical Specification allowable limit is [CTS]500,000 μ Ci/sec [ITS]600,000 μ Ci/sec (recombiner discharge gross noble gases beta and/or gamma). The hi-hi alarm setpoint is set at 50% of the instantaneous release limit. The hi-hi alarm setpoint has been conservatively selected because it is operationally significant and is readily recognizable by Control Room operating staff. 15 minutes is allotted for operator action to reduce the off-gas radiation levels and exclude transient conditions.

The hi-hi off-gas radiation alarm is set at 1000 mR/hr on 17RM-150 A and B.

PEG Reference(s):

SU4.1

Basis Reference(s):

1. PSP-14 Main Steam Line and SJAE Radiation Monitor Calibration
2. AOP-3 High Activity in Reactor Coolant or Off-gas
3. [CTS]Technical Specifications 3.6.C [ITS]3.4.6

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**1.0 Reactor Fuel 1.2 Off-gas Activity****1.2.2 Alert**

Off-gas radiation $\geq 10 \times$ hi-hi alarm

NUMARC IC:

N/A

FPB loss/potential loss:

Fuel clad loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

This EAL is to cover other indications that may indicate loss or potential loss of the fuel clad barrier. Air ejector off-gas radiation levels >10 times the nominal hi-hi setpoint is indicative of significant fuel cladding failure and is consistent with the Alert EAL of $300 \mu\text{Ci/gm}$ I-131 equivalent coolant activity. The Technical Specification allowable limit is (CTS) $500,000 \mu\text{Ci/sec}$ (ITS) $600,000 \mu\text{Ci/sec}$ (recombiner discharge gross noble gases beta and/or gamma). The hi-hi alarm setpoint is set at 50% of the instantaneous release limit and, therefore, a conservative representation of 10 times Technical Specification release limits. The hi-hi alarm setpoint has been conservatively selected because it is operationally significant and readily recognizable by the Control Room operating staff.

The hi-hi off-gas radiation alarm is set at 1000 mR/hr on 17RM-150A and B. 10 times the hi-hi alarm setpoint is therefore 10,000 mR/hr.

PEG Reference(s):

FC4.1

Basis Reference(s):

1. (CTS) Technical Specification 3.2.D and Radiological Effluent Technical Specifications 3.5 (ITS) 3.7.5
2. PSP-14 Main Steam Line and SJAE Radiation Monitor Calibration
3. AOP-3 High Activity in Reactor Coolant or Off-gas

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

1.0 Reactor Fuel 1.3 Containment Radiation

1.3.1 Alert

Drywell radiation ≥ 300 R/hr

NUMARC IC:

N/A

FPB loss/potential loss:

RCS loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

The drywell radiation reading is a value which indicates the release of reactor coolant to the drywell. The reading is calculated assuming the instantaneous release and dispersal of the reactor coolant noble gas and iodine inventory associated with normal operating concentrations (i. e., within Technical Specifications) into the drywell atmosphere. The 300 R/hr value is conservatively selected from EAP-44 Figures V-2 thru V-5 based on Case #5 (1/10th of 1% noble gas release) one hour after shutdown. The reading is less than that specified for EAL 1.3.2 because no damage to the fuel clad is assumed. Only leakage from the RCS is assumed in this EAL.

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell radiation monitors are 17-RE-104 A or B.

PEG Reference(s):

RCS3.1

Basis Reference(s):

1. EAP-44 Core Damage Estimation Figures V-2 thru V-5
2. Calculation SL-4370, Sargent & Lundy, May 1985 "High Range Containment Monitor Response to Post Accident Fission Product Barrier Releases - JAFNPP"

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**1.0 Reactor Fuel 1.3 Containment Radiation****1.3.2 Site Area Emergency**

Drywell radiation \geq 3000 R/hr

NUMARC IC:

N/A

FPB loss/potential loss:

Fuel clad loss, RCS loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

The drywell radiation reading is a value which indicates the release of reactor coolant, with elevated activity indicative of fuel damage, into the drywell. The reading is calculated assuming the instantaneous release and dispersal of the reactor coolant noble gas and iodine inventory associated with a concentration of 300 μ Ci/gm dose equivalent I-131 into the drywell atmosphere. Reactor coolant concentrations of this magnitude are several times larger than the maximum concentrations allowed within Technical Specifications (including iodine spiking) and are therefore indicative of fuel damage (approximately 2% - 5% clad failure depending on core inventory and RCS volume). The 3000 R/hr value was conservatively selected from EAP-44 Figures V-2 thru V-5 based on Case #4 (1% noble gas release) one hour after shutdown. The reading is higher than that specified for EAL 1.3.1 and, thus, this EAL indicates a loss of both the fuel clad barrier and the RCS barrier.

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell radiation monitors are 17-RE-104 A or B.

PEG Reference(s):

FC3.1

Basis Reference(s):

1. EAP-44 Core Damage Estimation Figures V-2 thru V-5
2. Calculation SL-4370, Sargent & Lundy, May 1985 "High Range Containment Monitor Response to Post Accident Fission Product Barrier Releases - JAFNPP"

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**1.0 Reactor Fuel 1.3 Containment Radiation****1.3.3 General Emergency**

Drywell radiation \geq 250,000 R/hr

NUMARC IC:

N/A

FPB loss/potential loss:

Fuel clad loss, RCS loss, Containment potential loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

The drywell radiation reading is a value which indicates significant fuel damage well in excess of that required for loss of the RCS barrier and the fuel clad barrier. NUREG-1228 "Source Estimations During Incident Response to Severe Nuclear Power Plant Accidents" states that such readings do not exist when the amount of clad damage is less than 20%. The 250,000 R/hr value was conservatively selected from EAP-44 Figures V-2 thru V-5 based on Case #3 (10% noble gas release) one hour after shutdown. A major release of radioactivity requiring offsite protective actions from core damage is not possible unless a major failure into the reactor coolant has occurred. Regardless of whether the primary containment barrier itself is challenged, this amount of activity in containment could have severe consequences if released. It is, therefore, prudent to treat this as a potential loss of the containment barrier and upgrade the emergency classification to a General Emergency.

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell radiation monitors are 17-RE-104 A or B.

PEG Reference(s):

PC3.1

Basis Reference(s):

1. EAP-44 Core Damage Estimation Figures V-2 thru V-5
2. Calculation SL-4370, Sargent & Lundy, May 1985 "High Range Containment Monitor Response to Post Accident Fission Product Barrier Releases - JAFNPP"

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**1.0 Reactor Fuel 1.4 Other Radiation Monitors****1.4.1 Notification of an Unusual Event**

Any sustained ARM reading > 100 x alarm or offscale hi resulting from an uncontrolled process

NUMARC IC:

Unexpected increase in plant radiation or airborne concentration.

FPB loss/potential loss:

N/A

Mode Applicability:

All

Basis:

Valid elevated area radiation levels usually have long lead times relative to the potential for radiological release beyond the site boundary, thus impact to public health and safety is very low.

This EAL addresses unplanned increases in radiation levels inside the plant. These radiation levels represent a degradation in the control of radioactive material and a potential degradation in the level of safety of the plant. Area radiation levels above 100 times the alarm setpoint have been selected because they are readily identifiable on ARM instrumentation. The ARM alarm setpoint is considered to be a bounding value above the maximum normal radiation level in an area. Since ARM setpoints are nominally set one decade over normal levels, 100 times the alarm setpoint provides an appropriate threshold for emergency classification. For those ARMS whose upper range limits are less than 100 times the alarm setpoint, a value of offscale high is used. This EAL escalates to an Alert, if the increases impair the level of safe plant operation.

PEG Reference(s):

AU2.4

Basis Reference(s):

1. EOP-5 Secondary Containment Control
2. AOP-53 Loss of Spent Fuel Pool, Reactor Cavity or Equipment Storage Pit Water Level

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**1.0 Reactor Fuel 1.4 Other Radiation Monitors****1.4.2 Alert**

Sustained Refuel Floor Exhaust Radiation Monitors 17RM-456A or B

> hi-hi alarm

OR

Any sustained refuel floor rad monitor > its Maximum Safe Operating Value,
Table 1.1

| Table 1.1 Refuel Floor Rad Monitors | |
|---|---------------|
| 18RM-021-12 Spent Fuel Pool (EPIC Pt. A-1229) | 1000mR/hr |
| 18RM-021-14 New Fuel Vault (EPIC Pt. A-1231) | 1000 mR/hr |
| 18RM-021-30 Refuel Floor West (EPIC Pt. A-1247) | 200,000 mR/hr |

NUMARC 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.

FPB loss/potential loss:

N/A

Mode Applicability:

All

Basis:

This EAL is defined by the specific areas where irradiated fuel is located such as reactor cavity, reactor vessel, or spent fuel pool.

Sufficient time exists to take corrective actions for these conditions and there is little potential for substantial fuel damage. NUREG/CR-4982 "Severe Accident in Spent Fuel Pools in Support of Generic Safety Issue 82" indicates that even if corrective actions are not taken, no prompt fatalities are predicted and the risk of injury is low. In addition, NRC Information Notice No. 90-08, "KR-85 Hazards from Decayed Fuel" presents the following it its discussion:

"In the event of a serious accident involving decayed spent fuel, protective actions would be needed for personnel on site, while offsite doses (assuming an exclusion area radius of one mile from the plant site) would be well below the Environmental Protection Agency's Protective Action Guides. Accordingly, it is important to be able to properly survey and monitor for Kr-85 in the event of an accident with decayed spent fuel."

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**3.0 Containment 3.1 Containment Pressure****3.1.2 Site Area Emergency**

Primary containment pressure cannot be maintained < 2.7 psig

AND

Coolant activity > 300 $\mu\text{Ci/gm}$

NUMARC IC:

N/A

FPB loss/potential loss:

Fuel clad loss, RCS loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

The drywell pressure value is the drywell high pressure scram setpoint and is indicative of a LOCA event. The term "cannot be maintained below" is intended to be consistent with the conditions specified in the Primary Containment Control EOP indicative of a high energy release into containment for which normal containment cooling systems are insufficient.

Elevated reactor coolant activity represents a potential degradation in the level of safety of the plant and a potential precursor of more serious problems. This amount of coolant activity is well above that expected for iodine spikes and corresponds to about 2% to 5% fuel clad damage. When reactor coolant activity reaches this level, significant clad heating has occurred and thus the fuel clad barrier is considered lost.

The combination of these conditions represents a loss of two fission product barriers and, therefore, declaration of a Site Area Emergency is warranted.

PEG Reference(s):

FC1.1

RCS2.1

Basis Reference(s):

1. JAFNPP EPG/SAG

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

3.0 Containment 3.1 Containment Pressure

3.1.3 General Emergency

Primary containment venting is required due to PCPL

NUMARC IC:

N/A

FPB loss/potential loss:

Fuel clad loss, RCS loss, Containment loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

Loss of primary containment is indicated when proximity to the Primary Containment Pressure Limit (PCPL) requires venting irrespective of the offsite radioactivity release rate. To reach the PCPL, primary containment pressure must exceed that predicted in any plant design basis accident analysis. A loss of the RCS barrier must have occurred with a potential loss of the fuel clad barrier.

PEG Reference(s):

PC1.3

PC2.2

Basis Reference(s):

1. JAFNPP EPG/SAG

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**3.0 Containment 3.2 Torus Temperature****3.2.1 Site Area Emergency**

Torus temperature and RPV pressure cannot be maintained < HCTL (non-ATWS)

NUMARC IC:

Complete loss of function needed to achieve or maintain hot shutdown with reactor coolant > 212°F.

FPB loss/potential loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

This EAL addresses complete loss of functions, including ultimate heat sink, required for hot shutdown with the reactor at pressure and temperature. Under these conditions, there is an actual major failure of a system intended for protection of the public. Thus, declaration of a Site Area Emergency is warranted.

Functions required for hot shutdown consist of the ability to achieve reactor shutdown and to discharge decay heat energy from the reactor to the ultimate heat sink. Inability to remove decay heat energy is reflected in an increase in suppression pool temperature. Elevated suppression pool temperature is addressed by the Heat Capacity Temperature Limit (HCTL). The HCTL is a function of RPV pressure and suppression pool temperature. If RPV pressure and suppression pool temperature cannot be maintained below the HCTL, the ultimate heat sink is threatened and declaration of a Site Area Emergency is warranted.

"non-ATWS" has been added parenthetically to discriminate from General Emergency EAL 2.2.4.

PEG Reference(s):

SS4.1

Basis Reference(s):

1. JAFNPP EPG/SAG

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

3.0 Containment

3.3 Combustible Gas Concentration

3.3.1 Site Area Emergency

≥ 4% H₂ exists in DW or torus

NUMARC IC:

N/A

FPB loss/potential loss:

Fuel clad loss, RCS loss

Mode Applicability:

All

Basis:

A 4% hydrogen concentration is generally considered the lower boundary of the range in which localized deflagrations may occur. To generate such a concentration of combustible gas, loss of both the fuel clad and RCS barriers must have occurred. Therefore, declaration of a Site Area Emergency is warranted.

If hydrogen concentrations increase in conjunction with the presence of oxygen to global deflagration levels (i.e. ≥ 6% hydrogen and ≥ 5% oxygen), venting of the containment irrespective of the offsite radioactive release rate would be required as well as declaration of a General Emergency.

PEG Reference(s):

SS5.2

Basis Reference(s):

1. JAFNPP EPG/SAG

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

3.0 Containment

3.4 Containment Isolation Status

3.4.2 General Emergency

Any steam line or RWCU isolation failure resulting in a release pathway outside primary containment, Table 3.1

AND any:

- Coolant activity > 300 $\mu\text{Ci/gm}$ I-131 equivalent
- RPV water level < 0 in. (TAF)
- DW radiation > 3000 R/hr

| Table 3.1 Steam Lines |
|--------------------------|
| MSLs |
| HPCI |
| RCIC |

NUMARC IC:

N/A

FPB loss/potential loss:

Fuel clad loss/potential loss, RCS loss, Containment loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

The conditions of this EAL include the containment isolation failures allowing a direct flow path to the environment. A release pathway outside primary containment exists when steam flow is not prevented by downstream isolations. In the case of a failure of both isolation valves to close but in which no downstream flowpath exists, declaration under this EAL would not be required. Containment isolation failures which result in a release pathway outside primary containment are the basis for declaration of Site Area Emergency in EAL 3.5.1.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**3.0 Containment****3.4 Containment Isolation Status**

When isolation failures are accompanied by elevated coolant activity, RPV water level below TAF, or high drywell radiation, declaration of a General Emergency is appropriate due to loss of the primary containment barrier, RCS barrier, and loss or potential loss of the fuel clad barrier.

Elevated reactor coolant activity represents a potential degradation in the level of safety of the plant and a potential precursor of more serious problems. This amount of coolant activity is well above that expected for iodine spikes and corresponds to about 2% to 5% fuel clad damage. When reactor coolant activity reaches this level, significant clad heating has occurred and thus the fuel clad barrier is considered lost.

The RPV water level used in this EAL is the top of active fuel (TAF). This value corresponds to the level which is used in EOPs to indicate challenge to core cooling and loss of the fuel clad barrier. This is the minimum water level to assure core cooling without further degradation of the clad. Severe core damage can occur and reactor coolant system pressure boundary integrity may not be assured if RPV water level is not maintained above TAF.

The drywell radiation reading is a value which indicates the release of reactor coolant, with elevated activity indicative of fuel damage, into the drywell. The reading is calculated assuming the instantaneous release and dispersal of the reactor coolant noble gas and iodine inventory associated with a concentration of $300 \mu\text{Ci/gm}$ dose equivalent I-131 into the drywell atmosphere. Reactor coolant concentrations of this magnitude are several times larger than the maximum concentrations allowed within Technical Specifications (including iodine spiking) and are therefore indicative of fuel damage (approximately 2% - 5% clad failure depending on core inventory and RCS volume).

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell radiation monitors are 17-RE-104 A or B.

PEG Reference(s):

PC2.1 and FC1.1

PC2.1 and FC2.1

PC2.1 and FC3.1

Basis Reference(s):

1. EAP-44 Core Damage Estimation Figures V-2 thru V-5
2. JAFNPP EPG/SAG
3. Calculation SL-4370, Sargent & Lundy, May 1985 "High Range Containment Monitor Response to Post Accident Fission Product Barrier Releases - JAFNPP"

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**4.0 Secondary Containment 4.1 Reactor Building Temperature****4.1.2 General Emergency**

Primary system is discharging outside PC

AND

RB area temperatures are > maximum safe operating levels in two or more areas, EOP-5

AND any:

- Coolant activity > 300 $\mu\text{Ci/gm}$ I-131 equivalent
- RPV water level < 0 in. (TAF)
- DW radiation > 3000 R/hr

NUMARC IC:

N/A

FPB loss/potential loss:

Fuel clad loss/potential loss, RCS loss, Containment loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

The presence of elevated area temperatures in the secondary containment may be indicative of an unisolable primary system leakage outside the primary containment. These conditions represent a loss of the containment barrier and a potential loss of the RCS barrier.

When secondary containment area temperatures are accompanied by elevated coolant activity, RPV water level below TAF, or high drywell radiation, declaration of a General Emergency is appropriate due to loss of the primary containment barrier, RCS barrier, and loss or potential loss of the fuel clad barrier.

Elevated reactor coolant activity represents a potential degradation in the level of safety of the plant and a potential precursor of more serious problems. This amount of coolant activity is well above that expected for iodine spikes and corresponds to about 2% to 5% fuel clad damage. When reactor coolant activity reaches this level, significant clad heating has occurred and thus the fuel clad barrier is considered lost.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**4.0 Secondary Containment 4.1 Reactor Building Temperature**

The RPV water level used in this EAL is the top of active fuel (TAF). This value corresponds to the level which is used in EOPs to indicate challenge to core cooling and potential loss of the fuel clad barrier. This is the minimum desired water level to assure long-term core cooling without further degradation of the clad. Severe core damage can occur and reactor coolant system pressure boundary integrity may not be assured if RPV water level is not maintained above TAF.

The drywell radiation reading is a value which indicates the release of reactor coolant, with elevated activity indicative of fuel damage, into the drywell. The reading is calculated assuming the instantaneous release and dispersal of the reactor coolant noble gas and iodine inventory associated with a concentration of 300 μ Ci/gm dose equivalent I-131 into the drywell atmosphere. Reactor coolant activity concentrations of this magnitude are several times larger than the maximum concentrations allowed within Technical Specifications (including iodine spiking) and are therefore indicative of fuel damage (approximately 2% - 5% clad failure depending on core inventory and RCS volume).

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell radiation monitors are 17-RE-104 A or B.

PEG Reference(s):

PC2.3 and FC1.1
PC2.3 and FC2.1
PC2.3 and FC3.1

Basis Reference(s):

1. EAP-44 Core Damage Estimation Figures V-2 thru V-5
2. JAFNPP EPG/SAG
3. Calculation SL-4370, Sargent & Lundy, May 1985 "High Range Containment Monitor Response to Post Accident Fission Product Barrier Releases - JAFNPP"
4. F-EOP-5

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

4.0 Secondary Containment 4.2 Reactor Building Radiation Level

4.2.1 Site Area Emergency

Primary system is discharging outside PC

AND

RB area radiation levels are > maximum safe operating levels in two or more areas, EOP-5

NUMARC IC:

N/A

FPB loss/potential loss:

RCS loss, Containment loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

The presence of elevated area radiation levels in the secondary containment may be indicative of an unisolable primary system leakage outside the primary containment. These conditions represent a loss of the containment barrier and a potential loss of the RCS barrier.

PEG Reference (s):

PC2.3

RCS1.3

Basis Reference (s):

1. JAFNPP EPG/SAG

2. F-EOP-5

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**4.0 Secondary Containment 4.2 Reactor Building Radiation Level****4.2.2 General Emergency**

Primary system is discharging outside PC

AND

RB area radiation levels are > maximum safe operating levels in two or more areas, EOP-5

AND any:

- Coolant activity > 300 $\mu\text{Ci/gm}$ I-131 equivalent
- RPV water level < 0 in. (TAF)
- DW radiation > 3000 R/hr

NUMARC IC:

N/A

FPB loss/potential loss:

Fuel clad loss/potential loss, RCS loss, Containment loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

The presence of elevated area radiation levels in the secondary containment may be indicative of an unisolable primary system leakage outside the primary containment. These conditions represent a loss of the containment barrier and a potential loss of the RCS barrier.

When secondary containment radiation levels are accompanied by elevated coolant activity, RPV water level below TAF, or high drywell radiation, declaration of a General Emergency is appropriate due to loss of the primary containment barrier, RCS barrier, and loss or potential loss of the fuel clad barrier.

Elevated reactor coolant activity represents a potential degradation in the level of safety of the plant and a potential precursor of more serious problems.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**4.0 Secondary Containment 4.2 Reactor Building Radiation Level****4.2.2 General Emergency**

This amount of coolant activity is well above that expected for iodine spikes and corresponds to about 2% to 5% fuel clad damage. When reactor coolant activity reaches this level, significant clad heating has occurred and thus the fuel clad barrier is considered lost.

The RPV water level used in this EAL is the top of active fuel (TAF). This value corresponds to the level which is used to indicate challenge to core cooling and loss of the fuel clad barrier.

The drywell radiation reading is a value which indicates the release of reactor coolant, with elevated activity indicative of fuel damage, into the drywell. The reading is calculated assuming the instantaneous release and dispersal of the reactor coolant noble gas and iodine inventory associated with a concentration of 300 $\mu\text{Ci/gm}$ dose equivalent I-131 into the drywell atmosphere. Reactor coolant activity concentrations of this magnitude are several times larger than the maximum concentrations allowed within Technical Specifications (including iodine spiking) and are therefore indicative of fuel damage (approximately 2% - 5% clad failure depending on core inventory and RCS volume).

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell radiation monitors are 17-RE-104 A or B.

PEG Reference(s):

PC2.3 and FC1.1

PC2.3 and FC2.1

PC2.3 and FC3.1

Basis Reference(s):

1. EAP-44 Core Damage Estimation Figures V-2 thru V-5
2. JAFNPP EPG/SAG
3. Calculation SL-4370, Sargent & Lundy, May 1985 "High Range Containment Monitor Response to Post Accident Fission Product Barrier Releases - JAFNPP"
4. F-EOP-5

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**5.0 RADIOACTIVITY RELEASE**

Many EALs are based on actual or potential degradation of fission product barriers because of the increased potential for offsite radioactivity release. Degradation of fission product barriers though, is not always apparent via non-radiological symptoms. Therefore, direct indication of increased radiological effluents are appropriate symptoms for emergency classification.

At lower levels, abnormal radioactivity releases may be indicative of a failure of containment systems or precursors to more significant releases. At higher release rates, offsite radiological conditions may result which require offsite protective actions.

There are two basic indications of radioactivity release rates which warrant emergency classifications.

- Effluent Monitors: Direct indication of effluent radiation monitoring systems provides a rapid assessment mechanism to determine releases in excess of classifiable limits.
- Dose Projection and/or Environmental Measurements: Projected offsite doses (based on effluent monitor readings) or actual offsite field measurements indicating doses or dose rates above classifiable limits.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

5.0 Radioactivity Release

5.1 Effluent Monitors

5.1.1 Notification of an Unusual Event

A valid reading from an unplanned release on any monitors Table 5.1 column "NUE" for > 60 min. unless sample analysis can confirm release rates < 2 x technical specifications within this time period.

| Table 5.1 Effluent Monitor Classification Thresholds | | | | |
|--|---------------|--------------|-------------------|-----------------|
| Low Range Monitors | | | | |
| Monitor | GE | SAE | Alert | NUE |
| STACK | See Hi Range | See Hi Range | see Hi range | ≥5E5 cps |
| RX BLDG EXH | N/A | N/A | ≥9.9E5 cpm | ≥2E4 cpm |
| REFUEL FLR EXH | N/A | N/A | ≥9.9E5 cpm | ≥2E4 cpm |
| TURB BLDG EXH | See Hi Range | See Hi Range | ≥9.9E5 cpm | ≥5E4 cpm |
| RADW BLDG EXH | See Hi Range | See Hi Range | ≥9.9E5 cpm | ≥2E4 cpm |
| SW EFF | N/A | N/A | ≥40,000 cps | ≥400 cps |
| RADW EFF | N/A | N/A | ≥200 x hi-hi trip | ≥2 x hi-hi trip |
| High Range Monitors | | | | |
| Monitor | GE | SAE | Alert | NUE |
| STACK | ≥11,600 mR/hr | ≥1160 mR/hr | ≥116 mR/hr | N/A |
| TURB BLDG EXH | ≥12 mR/hr* | ≥1.2 mR/hr* | N/A | N/A |
| RADW BLDG | ≥33 mR/hr* | ≥3.3 mR/hr* | N/A | N/A |

* with its corresponding low range monitors upscale

NUMARC 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.

FPB loss/potential loss:

N/A

Mode Applicability:

All

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

5.0 Radioactivity Release

5.1 Effluent Monitors

5.1.2 Alert

A valid reading from an unplanned release on any monitors Table 5.1 column "Alert" for > 15 min. unless dose assessment can confirm releases are below Table 5.2 column "Alert" within this time period.

| Table 5.1 Effluent Monitor Classification Thresholds | | | | |
|--|---------------|--------------|-------------------|-----------------|
| Low Range Monitors | | | | |
| Monitor | GE | SAE | Alert | NUE |
| STACK | see Hi Range | see Hi Range | see Hi range | ≥5E5 cps |
| RX BLDG EXH | N/A | N/A | ≥9.9E5 cpm | ≥2E4 cpm |
| REFUEL FLR EXH | N/A | N/A | ≥9.9E5 cpm | ≥2E4 cpm |
| TURB BLDG EXH | see Hi Range | see Hi Range | ≥9.9E5 cpm | ≥5E4 cpm |
| RADW BLDG EXH | see Hi Range | see Hi Range | ≥9.9E5 cpm | ≥2E4 cpm |
| SW EFF | N/A | N/A | ≥40,000 cps | ≥400 cps |
| RADW EFF | N/A | N/A | ≥200 x hi-hi trip | ≥2 x hi-hi trip |
| High Range Monitors | | | | |
| Monitor | GE | SAE | Alert | NUE |
| STACK | ≥11,600 mR/hr | ≥1160 mR/hr | ≥116 mR/hr | N/A |
| TURB BLDG EXH | ≥12 mR/hr* | ≥1.2 mR/hr* | N/A | N/A |
| RADW BLDG | ≥33 mR/hr* | ≥3.3 mR/hr* | N/A | N/A |

*with its corresponding low range monitors upscale

| Table 5.2 Dose Projection / Env. Measurement Classification Thresholds | | | |
|--|--------------|-------------|------------|
| | GE | SAE | Alert |
| TEDE | 1000 mRem | 100 mRem | 10 mRem |
| CDE Thyroid | 5000 mRem | 500 mRem | N/A |
| External exposure rate | 1000 mRem/hr | 100 mRem/hr | 10 mRem/hr |
| Thyroid exposure rate (for 1 hr. of inhalation) | 5000 mRem/hr | 500 mRem/hr | N/A |

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**5.0 Radioactivity Release****5.1 Effluent Monitors****5.1.2 Alert****NUMARC IC:**

Any unplanned release of gaseous or liquid radioactivity to the environment that exceeds 200 times radiological Technical Specifications for 15 minutes or longer.

FPB loss/potential loss:

N/A

Mode Applicability:

All

Basis:

Valid means that a radiation monitor reading has been confirmed by the operators to be correct. This event escalates from the Notification of an Unusual Event by increasing the magnitude of the release by a factor of 100 over the Notification of an Unusual Event level (i. e., 200 times Technical Specifications). Prorating the 500 mR/yr basis of the 10CFR20 non-occupational MPC limits for both time (8766 hr/yr) and the 200 multiplier, the associated site boundary dose rate would be 10 mR/hr. The required release duration was reduced to 15 minutes in recognition of the increased severity.

The values for the gaseous effluent radiation monitors are based upon not exceeding 10 mR/hr at the site boundary as a result of the release. The values are derived from JAF-CALC-MULTI-01162. Since the calculated monitor readings for the Reactor, Turbine and RadWaste Building normal range monitors are in excess of the instruments upper range (1E6) but at the very bottom of the corresponding high range instrument, an indication of 9.9E5 cpm on the normal range has been conservatively utilized.

Instrumentation that may be used to assess this EAL is listed below:

RadWaste Effluent Radiation Monitor: 17RM-350
Service Water Radiation Monitor: 17RM-351
Turbine Bldg. Exhaust Radiation Monitor: 17RM-431
Turbine Bldg. Exhaust Radiation Monitor: 17RM-432
Reactor Bldg. Vent Radiation Monitors: 17RM-452A/B
Refuel Floor Vent Duct Radiation Monitors: 17RM-456A/B
RadWaste Bldg. Vent Exhaust Radiation Monitors: 17RM-458A/B
Stack High Range Effluent Monitors: 17RM-53A/B

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**5.0 Radioactivity Release****5.1 Effluent Monitors****5.1.2 Alert**

RECLC process monitors are not included in this EAL. These monitors detect radiation in the closed cooling water loop. Any leaks into Service Water via heat exchangers would be detected by the Service Water monitors. Therefore, the Service Water radiation monitor adequately detects offsite radioactivity releases from this system.

The basis for these values are represented in JAF-CALC-MULTI-01162. Actual meteorology and release information provide a better indication and should be used when possible. Either dose assessment values using a predictive model or actual field reading provide the best information for use.

PEG Reference(s):

AA1.1

Basis Reference(s):

1. JAF-CALC-MULTI-01162
2. OP-31 Process Radiation Monitoring Systems
3. CDP-15 Offsite Dose Calculation Manual
4. Facility Operating License No. DPR-59, Technical Specifications

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

5.0 Radioactivity Release

5.1 Effluent Monitors

5.1.3 Site Area Emergency

A valid reading from an unplanned release on any monitors Table 5.1 column "SAE" for > 15 min. unless dose assessment can confirm releases are below Table 5.2 column "SAE" within this time period.

| Table 5.1 Effluent Monitor Classification Thresholds | | | | |
|--|---------------|--------------|-------------------|-----------------|
| Low Range Monitors | | | | |
| Monitor | GE | SAE | Alert | NUE |
| STACK | see Hi Range | see Hi Range | see Hi range | ≥5E5 cps |
| RX BLDG EXH | N/A | N/A | ≥9.9E5 cpm | ≥2E4 cpm |
| REFUEL FLR EXH | N/A | N/A | ≥9.9E5 cpm | ≥2E4 cpm |
| TURB BLDG EXH | see Hi Range | see Hi Range | ≥9.9E5 cpm | ≥5E4 cpm |
| RADW BLDG EXH | see Hi Range | see Hi Range | ≥9.9E5 cpm | ≥2E4 cpm |
| SW EFF | N/A | N/A | ≥40,000 cps | ≥400 cps |
| RADW EFF | N/A | N/A | ≥200 x hi-hi trip | ≥2 x hi-hi trip |
| High Range Monitors | | | | |
| Monitor | GE | SAE | Alert | NUE |
| STACK | ≥11,600 mR/hr | ≥1160 mR/hr | ≥116 mR/hr | N/A |
| TURB BLDG EXH | ≥12 mR/hr* | ≥1.2 mR/hr* | N/A | N/A |
| RADW BLDG | ≥33 mR/hr* | ≥3.3 mR/hr* | N/A | N/A |

*with its corresponding low range monitors upscale

| Table 5.2 Dose Projection / Env. Measurement Classification Thresholds | | | |
|--|--------------|-------------|------------|
| | GE | SAE | Alert |
| TEDE | 1000 mRem | 100 mRem | 10 mRem |
| CDE Thyroid | 5000 mRem | 500 mRem | N/A |
| External exposure rate | 1000 mRem/hr | 100 mRem/hr | 10 mRem/hr |
| Thyroid exposure rate (for 1 hr. of inhalation) | 5000 mRem/hr | 500 mRem/hr | N/A |

NUMARC IC:

Boundary dose resulting from an actual or imminent release of gaseous radioactivity exceeds 100 mRem TEDE or 500 mRem CDE Thyroid for the actual or projected duration of the release.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

5.0 Radioactivity Release

5.1 Effluent Monitors

5.1.4 General Emergency

A valid reading from an unplanned release on any monitors Table 5.1 column "GE" for > 15 min. unless dose assessment can confirm releases are below Table 5.2 column "GE" within this time period.

| Table 5.1 Effluent Monitor Classification Thresholds | | | | |
|--|---------------|--------------|-------------------|-----------------|
| Low Range Monitors | | | | |
| Monitor | GE | SAE | Alert | NUE |
| STACK | see Hi Range | see Hi Range | see Hi range | ≥5E5 cps |
| RX BLDG EXH | N/A | N/A | ≥9.9E5 cpm | ≥2E4 cpm |
| REFUEL FLR EXH | N/A | N/A | ≥9.9E5 cpm | ≥2E4 cpm |
| TURB BLDG EXH | see Hi Range | see Hi Range | ≥9.9E5 cpm | ≥5E4 cpm |
| RADW BLDG EXH | see Hi Range | see Hi Range | ≥9.9E5 cpm | ≥2E4 cpm |
| SW EFF | N/A | N/A | ≥40,000 cps | ≥400 cps |
| RADW EFF | N/A | N/A | ≥200 x hi-hi trip | ≥2 x hi-hi trip |
| High Range Monitors | | | | |
| Monitor | GE | SAE | Alert | NUE |
| STACK | ≥11,600 mR/hr | ≥1160 mR/hr | ≥116 mR/hr | N/A |
| TURB BLDG EXH | ≥12 mR/hr* | ≥1.2 mR/hr* | N/A | N/A |
| RADW BLDG | ≥33 mR/hr* | ≥3.3 mR/hr* | N/A | N/A |

*with its corresponding low range monitors upscale

| Table 5.2 Dose Projection / Env. Measurement Classification Thresholds | | | |
|--|--------------|-------------|------------|
| | GE | SAE | Alert |
| TEDE | 1000 mRem | 100 mRem | 10 mRem |
| CDE Thyroid | 5000 mRem | 500 mRem | N/A |
| External exposure rate | 1000 mRem/hr | 100 mRem/hr | 10 mRem/hr |
| Thyroid exposure rate (for 1 hr. of inhalation) | 5000 mRem/hr | 500 mRem/hr | N/A |

NUMARC IC:

Boundary dose resulting from an actual or imminent release of gaseous radioactivity exceeds 1000 mRem TEDE or 5000 mRem CDE Thyroid for the actual or projected duration of the release using actual meteorology.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**5.0 Radioactivity Release****5.1 Effluent Monitors****5.1.4 General Emergency****FPB loss/potential loss:**

N/A

Mode Applicability:

All

Basis:

Valid means that a radiation monitor reading has been confirmed by the operators to be correct. The GE values of Table 5.1 are based on the 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. The 1000 mR whole body and the 5000 mR child thyroid integrated dose are based on the EPA protective action guidance which indicates that public protective actions are indicated if the dose exceeds 1 rem whole body or 5 rem child thyroid. This is consistent with the emergency class description for a General Emergency. This level constitutes the upper level of the desirable gradient for the Site Area Emergency. Actual meteorology is specifically identified since it gives the most accurate dose assessment. Actual meteorology (including forecasts) should be used whenever possible.

Integrated doses are generally not monitored in real-time. In establishing this emergency action level, a duration of one hour is assumed based on a site boundary doses for either whole body or child thyroid, whichever is more limiting (depends on source term assumptions).

The FSAR source terms applicable to each monitored pathway are used in conjunction with annual average meteorology in determining indications for the monitors on that pathway.

The values specified in this EAL were derived from JAF-CALC-MULTI-01162. Because of the proximity of the calculated values to the monitor's bottom range, the Turbine Building and RadWaste Building values also specify that the corresponding normal range monitors indicate upscale to preclude declaration based upon signal noise.

The basis for these values are represented in JAF-CALC-MULTI-01162. Actual meteorology and release information provide a better indication and should be used when possible. Either dose assessment vales using a predictive model or actual field reading provide the best information for use.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**6.0 ELECTRICAL FAILURES**

Loss of vital plant electrical power can compromise plant safety system operability including decay heat removal and emergency core cooling systems which may be necessary to ensure fission product barrier integrity.

The events of this category have been grouped into the following two loss of electrical power types:

- Loss of AC Power Sources: This category includes losses of onsite and/or offsite AC power sources including station blackout events.
- Loss of DC Power Sources: This category involves total losses of vital plant 125 V DC power sources.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

6.1 Loss of AC Power Sources

6.1.1 Notification of an Unusual Event

Loss of power for >15 min. to all:

- Reserve Station Transformer T-2
- Reserve Station Transformer T-3

AND

If T-4 is being back fed from Station Main Transformer T-1A/T-1B then,

- Station Service Transformer

NUMARC IC:

Loss of all offsite power to essential busses for greater than 15 minutes.

FPB loss/potential loss:

N/A

Mode Applicability:

All

Basis:

Prolonged loss of all offsite AC power reduces required redundancy and potentially degrades the level of safety of the plant by rendering the plant more vulnerable to a complete loss of AC power (station blackout). Fifteen minutes was selected as a threshold to exclude transient or momentary power losses.

Backfeeding of the station transformer has been included to allow for those conditions in which maintenance is being performed on the station reserve transformers or 115 kv system. It is recognized that this is not a readily available source of emergency power under emergency conditions and should only be taken credit for those conditions under which backfeeding has already been established.

PEG Reference(s):

SU1.1

Basis Reference(s):

1. OP-44 115 kv system
2. OP-45 345 kv system
3. OP-45A Backfeeding Normal Station Service Transformer
4. OP-46A 4160 V & 600 V Normal AC Power Distribution
5. OP-22 Diesel Generator Emergency Power

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**6.0 Electrical Failures 6.1 Loss of AC Power Sources****6.1.2 Alert**

Loss of all vital bus AC power for >15 min.

NUMARC IC:

Loss of all offsite power and loss of all onsite AC power to essential busses during cold shutdown, refueling or defueled mode.

FPB loss/potential loss:

N/A

Mode Applicability:

Cold shutdown, Refuel, Defuel

Basis:

Loss of all AC power compromises all plant safety systems requiring electric power. This EAL is indicated by:

Loss of power for > 15 min. to all:

- Reserve Station Transformer T-2
- Reserve Station Transformer T-3

AND

If T-4 is being back fed from Station Main Transformer T-1A/T-1B then,

- Station Service Transformer

AND

failure of all DGs to power any vital bus

AND

failure to restore power to 10500 or 10600 in \leq 15 min.

When in cold shutdown, refueling, or defueled mode this event is classified as an Alert. This is because of the significantly reduced decay heat, lower temperature and pressure, thus increasing the time to restore one of the emergency busses, relative to that specified for the Site Area Emergency EAL. Escalating to the Site Area Emergency, if appropriate, is by Abnormal Rad Levels/Radiological Effluent, or Emergency Director Judgment ICs. Fifteen minutes was selected as a threshold to exclude transient or momentary power losses.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**6.0 Electrical Failures****6.1 Loss of AC Power Sources**

Backfeeding of the normal station transformer has been included to allow for those conditions in which maintenance is being performed on the station reserve transformers or 115 kv system. It is recognized that this is not a readily available source of emergency power under emergency conditions and should only be taken credit for those conditions under which backfeeding has already been established.

PEG Reference(s):

SA1.1

Basis Reference(s):

1. OP-44 115 kv system
2. OP-45 345 kv system
3. OP-45A Backfeeding Normal Station Service Transformer
4. OP-46A 4160 V & 600 V Normal AC Power Distribution
5. OP-22 Diesel Generator Emergency Power

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**6.0 Electrical Failures 6.1 Loss of AC Power Sources****6.1.3 Alert**

Available vital bus AC power reduced to only one of the following sources for >15 min.:

- Reserve Station Transformer T-2
- Reserve Station Transformer T-3
- Station Service Transformer T-4
- EDG A (10500)
- EDG B (10600)
- EDG C (10500)
- EDG D (10600)

NUMARC IC:

AC power capability to essential busses reduced to a single power source for greater than 15 minutes such that any additional single failure would result in station blackout with reactor coolant > 212°F.

FPB loss/potential loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

The condition indicated by this EAL is the degradation of the offsite power with a concurrent failure of all but one emergency generator to supply power to its emergency buss. Another related condition could be the loss of all offsite power and loss of all onsite emergency diesels with emergency busses being fed from the unit main generator, or the loss of all onsite emergency diesels with only one train of emergency busses being fed from offsite power. The subsequent loss of this single power source would escalate the event to a Site Area Emergency.

PEG Reference(s):

SA5.1

Basis Reference(s):

1. OP-44 115 kv system
2. OP-45 345 kv system
3. OP-45A Backfeeding Normal Station Service Transformer
4. OP-46A 4160 V & 600 V Normal AC Power Distribution
5. OP-22 Diesel Generator Emergency Power

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**6.0 Electrical Failures 6.1 Loss of AC Power Sources****6.1.4 Site Area Emergency**

Loss of all vital bus AC power for >15 min.

NUMARC IC:

Loss of all offsite power and loss of all onsite AC power to essential busses with reactor coolant > 212°F.

FPB loss/potential loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

Loss of all AC power compromises all plant safety systems requiring electric power. This EAL is indicated by:

Loss of power to Reserve Station Transformer T-2 and T-3 and Station Service Transformer T-4 fed from the main generator

AND

failure of all DGs to power any vital bus

AND

failure to restore power to 10500 or 10600 in ≤ 15 min.

Prolonged loss of all AC power will cause core uncover and loss of containment integrity, thus this event can escalate to a General Emergency. The time duration selected, 15 minutes, excludes transient or momentary power losses.

PEG Reference(s):

SS1.1

Basis Reference(s):

1. OP-44 115 kv system
2. OP-45 345 kv system
3. OP-45A Backfeeding Normal Station Service Transformer
4. OP-46A 4160 V & 600 V Normal AC Power Distribution
5. OP-22 Diesel Generator Emergency Power

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**6.0 Electrical Failures 6.1 Loss of AC Power Sources****6.1.5 General Emergency**

Loss of all vital bus AC power

AND either:

Power restoration to any emergency bus is not likely in ≤ 4 hrs

OR

RPV water level cannot be restored and maintained > 0 in. (TAF)

NUMARC IC:

Prolonged loss of all offsite power and prolonged loss of all onsite AC power with reactor coolant $> 212^{\circ}\text{F}$.

FPB loss/potential loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

Loss of all AC power compromises all plant safety systems requiring electric power. Prolonged loss of all AC power will lead to loss of fuel clad, RCS, and containment. Although this EAL may be viewed as redundant to the RPV Water Level EALs, its inclusion is necessary to better assure timely recognition and emergency response.

This EAL is specified to assure that in the unlikely event of prolonged station blackout, timely recognition of the seriousness of the event occurs and that declaration of a General Emergency occurs as early as is appropriate, based on a reasonable assessment of the event trajectory.

The likelihood of restoring at least one emergency bus should be based on a realistic appraisal of the situation since a delay in an upgrade decision based on only a chance of mitigating the event could result in a loss of valuable time in preparing and implementing public protective actions.

In addition, under these conditions, fission product barrier monitoring capability may be degraded. Although it may be difficult to predict when power can be restored, the Emergency Director should declare a General Emergency based on two major considerations:

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**6.0 Electrical Failures****6.1 Loss of AC Power Sources****6.1.5 General Emergency**

1. Are there any present indications that core cooling is already degraded to the point that Loss or Potential Loss of fission product barriers is imminent?
2. If there are no present indications of such core cooling degradation, how likely is it that power can be restored in time to assure that a loss of two barriers with a potential loss of the third barrier can be prevented?

Thus, indication of continuing core cooling degradation must be based on fission product barrier monitoring with particular emphasis on Emergency Director judgment as it relates to imminent loss or potential loss of fission product barriers and degraded ability to monitor fission product barriers.

The time to restore AC power is based on site blackout coping analysis performed in conformance with 10CFR50.63 and Regulatory Guide 1.155, "Station Blackout", with appropriate allowance for offsite emergency response.

PEG Reference(s):

SG1.1

Basis Reference(s):

1. OP-44 115 kv system
2. OP-45 345 kv system
3. OP-45A Backfeeding Normal Station Service Transformer
4. OP-46A 4160 V & 600 V Normal AC Power Distribution
5. OP-22 Diesel Generator Emergency Power
6. Misc. Calculation JAF-CALC-89-012 "Determination of Required SBO Coping Duration Per NUMARC 8700" Rev. 0 3/28/93
7. JAFNPP EPG/SAG

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**6.0 Electrical Failures 6.2 Loss of DC Power Sources****6.2.1 Notification of an Unusual Event**

< 105 vdc on 71-BCB-2A and B for >15 min. due to unplanned activities.

NUMARC IC:

Unplanned loss of required DC power during cold shutdown or refueling mode for greater than 15 minutes.

FPB loss/potential loss:

N/A

Mode Applicability:

Cold shutdown, Refuel

Basis:

The purpose of this EAL is to recognize a loss of DC power compromising the ability to monitor and control the removal of decay heat during cold shutdown or refueling operations. This EAL is intended to be anticipatory in as much as the operating crew may not have necessary indication and control of equipment needed to respond to the loss.

The bus voltage is based on the minimum bus voltage necessary for the operation of safety related equipment. This voltage value incorporates a margin of at least 15 minutes of operation before the onset of inability to operate loads.

PEG Reference(s):

SU7.1

Basis Reference(s):

1. OP-43A 125 V DC Power System
2. AOP-45 Loss of DC Power System 'A'
3. AOP-46 Loss of DC Power System 'B'

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**6.0 Electrical Failures 6.2 Loss of DC Power Sources****6.2.2 Site Area Emergency**

< 105 vdc on 71-BCB-2A and B for > 15 min.

NUMARC IC:

Loss of all vital DC power with reactor coolant > 212°F.

FPB loss/potential loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

Loss of all DC power compromises ability to monitor and control plant safety functions. Prolonged loss of all DC power will cause core uncovering and loss of containment integrity when there is significant decay heat and sensible heat in the reactor system. Escalation to a General Emergency would occur by other EAL categories. Fifteen minutes was selected as a threshold to exclude transient or momentary power losses.

The bus voltage is based on the minimum bus voltage necessary for the operation of safety related equipment. This voltage value incorporates a margin of at least 15 minutes of operation before the onset of inability to operate loads.

PEG Reference(s):

SS3.1

Basis Reference(s):

1. OP-43A 125 V DC Power System
2. AOP-45 Loss of DC Power System 'A'
3. AOP-46 Loss of DC Power System 'B'

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**7.0 EQUIPMENT FAILURES**

Numerous plant system related equipment failure events which warrant emergency classification, based upon their potential to pose actual or potential threats to plant safety, have been identified in this category.

The events of this category have been grouped into the following event types:

- Technical Specifications: Only one EAL falls under this event type related to the failure of the plant to be brought to the required plant operating condition required by technical specifications.
- System Failures or Control Room Evacuation: This category includes events which are indicative of losses of operability of safety systems such as ECCS, isolation functions, Control Room habitability or cold and hot shutdown capabilities.
- Loss of Indication, Alarm, or Communication Capability: Certain events which degrade the plant operators ability to effectively assess plant conditions or communicate with essential personnel within or external to the plant warrant emergency classification. Under this event type are losses of annunciators and/or communication equipment.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**7.0 Equipment Failures 7.1 Technical Specifications****7.1.1 Notification of an Unusual Event**

Plant is not brought to required operating mode within Technical Specifications LCO Action Statement Time

NUMARC IC:

Inability to reach required shutdown within Technical Specification Limits.

FPB loss/potential loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

Limiting Conditions of Operation (LCOs) require the plant to be brought to a required shutdown mode when the Technical Specification required configuration cannot be restored. Depending on the circumstances, this may or may not be an emergency or precursor to a more severe condition. In any case, the initiation of plant shutdown required by the site Technical Specification requires a one hour report under 10CFR50.72 (b) non-emergency events. The plant is within its safety envelope when being shut down within the allowable action statement time in the Technical Specifications. An immediate Notification of an Unusual Event is required when the plant is not brought to the required operating mode within the allowable action statement time in the Technical Specifications. Declaration of an Notification of an Unusual Event is based on the time at which the LCO-specified action statement time period elapses under the site Technical Specifications and is not related to how long a condition may have existed. Other required Technical Specification shutdowns that involve precursors to more serious events are addressed by other EALs.

PEG Reference(s):

SU2.1

Basis Reference(s):

1. [CTS]Technical Specifications Section 3.0.A and 3.0.B [ITS]3.01 and 3.02

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

7.0 Equipment Failures 7.2 System Failures or Control Room Evacuation

7.2.3 Alert

Reactor coolant temperature cannot be maintained < 212°F

NUMARC IC:

Inability to maintain plant in cold shutdown.

FPB loss/potential loss:

N/A

Mode Applicability:

Cold shutdown, refuel

Basis:

This EAL addresses complete loss of functions required for core cooling during refueling and cold shutdown modes. Escalation to Site Area Emergency or General Emergency would be through other EALs.

A reactor coolant temperature increase that approaches or exceeds the cold shutdown technical specification limit warrants declaration of an Alert irrespective of the availability of technical specification required functions to maintain cold shutdown. The concern of this EAL is the loss of ability to maintain the plant in cold shutdown which is defined by reactor coolant temperature and not the operability of equipment which supports removal of heat from the reactor.

PEG Reference(s):

SA3.1

Basis Reference(s):

1. AOP-30 Loss of Shutdown Cooling

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**7.0 Equipment Failures 7.2 System Failures or Control Room Evacuation****7.2.4 Site Area Emergency**

Control Room evacuation

AND

Plant control cannot be established per AOP-43, "Shutdown from Outside the Control Room" in \leq 30 min.

NUMARC IC:

Control room evacuation has been initiated and plant control cannot be established.

FPB loss/potential loss:

N/A

Mode Applicability:

All

Basis:

This EAL indicates that expeditious transfer of safety systems has not occurred but fission product barrier damage may not yet be indicated. The time interval for transfer is based on analysis or assessments as to how quickly control must be reestablished without core uncovering and/or core damage. In cold shutdown and refueling modes, operator concern is directed toward maintaining core cooling such as is discussed in Generic Letter 88-17, "Loss of Decay Heat Removal." In power operation, hot standby, and hot shutdown modes, operator concern is primarily directed toward monitoring and controlling plant parameters dictated by the AOPs and thereby assuring fission product barrier integrity.

PEG Reference(s):

HS2.1

Basis Reference(s):

1. Generic Letter 88-17, "Loss of Decay Heat Removal"
2. AOP-43 "Shutdown from Outside the Control Room"
3. AOP-30 "Loss of Shutdown Cooling"
4. Appendix R

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**7.0 Equipment Failures 7.3 Loss of Indications/Alarm/
Communication Capability****7.3.1 Notification of an Unusual Event**

Unplanned loss of safety system annunciators or indicators on all of the following panels for > 15 min.:

- 09-3
- 09-4
- 09-5
- 09-6
- 09-7
- 09-8
- 09-75

AND

Increased surveillance is required for safe plant operation

NUMARC IC:

Unplanned loss of most or all safety system annunciation or indication in the control room for greater than 15 minutes

FPB loss/potential loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

This EAL recognizes the difficulty associated with monitoring changing plant conditions without the use of a major portion of the annunciation or indication equipment. Recognition of the availability of computer based indication equipment is considered (EPIC).

"Unplanned" loss of annunciators or indicators excludes scheduled maintenance and testing activities.

It is not intended that plant personnel perform a detailed count of the instrumentation lost but the use of the value as a judgment by the Shift Manager as the threshold for determining the severity of the plant conditions. This judgment is supported by the specific opinion of the Shift Manager that additional operating personnel will be required to provide increased monitoring of system operation to safely operate the plant.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**7.0 Equipment Failures 7.3 Loss of Indications/Alarm/
Communication Capability****7.3.1 Notification of an Unusual Event**

It is further recognized that most plant designs provide redundant safety system indication powered from separate uninterruptible power supplies. While failure of a large portion of annunciators is more likely than a failure of a large portion of indications, the concern is included in this EAL due to difficulty associated with assessment of plant conditions. The loss of a specific, or several, safety system indicators should remain a function of that specific system or component operability status. This will be addressed by their specific Technical Specification. The initiation of a Technical Specification imposed plant shutdown related to the instrument loss will be reported via 10CFR50.72. If the shutdown is not in compliance with the Technical Specification action, the Notification of an Unusual Event is based on EAL 7.1.1, Inability to Reach Required Shutdown Within Technical Specification Limits.

Annunciators or indicators for this EAL must include those identified in the Abnormal Operating procedures, in the Emergency Operating Procedures, and in other EALs (e. g., area, process, and/or effluent rad monitors, etc.).

Fifteen minutes was selected as a threshold to exclude transient or momentary power losses.

Due to the limited number of safety systems in operation during cold shutdown, refueling, and defueled modes, this EAL is not applicable during these modes of operation.

This Notification of an Unusual Event will be escalated to an Alert if a transient is in progress during the loss of annunciation or indication.

PEG Reference(s):

SU3.1

Basis Reference(s):

None

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**7.0 Equipment Failures 7.3 Loss of Indications/Alarm/
Communication Capability****7.3.3 Alert**

Unplanned loss of safety system annunciators or indicators on all of the following panels for > 15 min.:

- 09-3
- 09-4
- 09-5
- 09-6
- 09-7
- 09-8
- 09-75

AND

Increased surveillance is required for safe plant operation

AND either:

Plant transient in progress

OR

EPIC is unavailable

NUMARC IC:

Unplanned loss of most or all safety system annunciation or indication in control room with either (1) a significant transient in progress, or (2) compensatory non-alarming indicators are unavailable.

FPB loss/potential loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

This EAL recognizes the difficulty associated with monitoring changing plant conditions without the use of a major portion of the annunciation or indication equipment during a transient. Recognition of the availability of computer based indication equipment is considered (SPDS, plant computer, etc.).

"Unplanned" loss of annunciators or indicators does not include scheduled maintenance and testing activities.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**7.0 Equipment Failures 7.3 Loss of Indications/Alarm/
Communication Capability****7.3.3 Alert**

It is not intended that plant personnel perform a detailed count of the instrumentation lost but the use of judgment by the Shift Manager as the threshold for determining the severity of the plant conditions. This judgment is supported by the specific opinion of the Shift Manager that additional operating personnel will be required to provide increased monitoring of system operation to safely operate the plant.

It is further recognized that most plant designs provide redundant safety system indication powered from separate uninterruptible power supplies. While failure of a large portion of annunciators is more likely than a failure of a large portion of indications, the concern is included in this EAL due to difficulty associated with assessment of plant conditions. The loss of specific, or several, safety system indicators should remain a function of that specific system or component operability status. This will be addressed by the specific Technical Specification. The initiation of a Technical Specification imposed plant shutdown related to the instrument loss will be reported via 10CFR50.72.

Annunciators or indicators for this EAL includes those identified in the Abnormal Operating Procedures, in the Emergency Operating Procedures, and in other EALs (e. g., area, process, and/or effluent rad monitors, etc.).

"Significant transient" includes response to automatic or manually initiated functions such as scrams, runbacks involving greater than 25% thermal power change, ECCS injections, or thermal power oscillations of 10% or greater.

If both a major portion of the annunciation system and all computer monitoring are unavailable to the extent that the additional operating personnel are required to monitor indications, the Alert is required.

Due to the limited number of safety systems in operation during cold shutdown, refueling and defueled modes, no EAL is indicated during these modes of operation.

This Alert will be escalated to a Site Area Emergency if the operating crew cannot monitor the transient in progress.

PEG Reference(s):

SA4.1

Basis Reference(s):

None

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

7.0 Equipment Failures

7.3 Loss of Indications/Alarm/
Communication Capability

7.3.4 Site Area Emergency

"Significant transient" includes response to automatic or manually initiated functions such as scrams, runbacks involving greater than 25% thermal power change, ECCS injections, or thermal power oscillations of 10% or greater.

Indications needed to monitor safety functions necessary for protection of the public must include Control Room indications, computer generated indications and dedicated annunciation capability. The specific indications should be those used to determine such functions as the ability to shut down the reactor, maintain the core cooled and in a coolable geometry, to remove heat from the core, to maintain the reactor coolant system intact, and to maintain containment intact.

"Planned" actions are excluded from this EAL since the loss of instrumentation of this magnitude is of such significance during a transient that the cause of the loss is not an ameliorating factor.

PEG Reference(s):

SS6.1

Basis Reference(s):

1. JAFNPP EPG/SAG

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**8.0 Hazards**

Hazards are those non-plant system related events which can directly or indirectly impact plant operation or reactor plant and personnel safety.

The events of this category have been grouped into the following types:

- Security Threats: This category includes unauthorized entry attempts into the Protected Area as well as bomb threats and sabotage attempts. Also addressed are actual security compromises threatening loss of physical control of the plant.
- Fire or Explosion: Fires can pose significant hazards to personnel and reactor safety. Appropriate for classification are certain fires within the site Protected Area or which may affect operability of vital equipment.
- Man-made Events: Man-made events are those non-naturally occurring events which can cause damage to plant facilities such as aircraft crashes, missile impacts, toxic or flammable gas leaks or explosions from whatever source.
- Natural Events: Events such as hurricanes, earthquakes or tornadoes which have potential to cause damage to plant structures or equipment significant enough to threaten personnel or plant safety.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**8.0 Hazards****8.1 Security Threats****8.1.1 Unusual Event**

Bomb device or other indication of attempted sabotage discovered within plant Protected Area or ISFSI

OR

Notification of any credible site specific security threat by the Security Shift Supervisor or outside agency (NRC, military or law enforcement)

NEI IC:

Confirmed security event which indicates a potential degradation in the level of safety of the plant

FPB loss/potential loss:

N/A

Mode Applicability:

All

Basis:

This EAL is based on the James A. FitzPatrick Safeguards Contingency Plans. Security events which do not represent a potential degradation in the level of safety of the plant are reported under 10CFR73.71 or in some cases under 10CFR50.72.

The plant Protected Area boundary and ISFSI are within the security isolation zone and is defined in the security plan. Bomb devices discovered within the plant Vital Area would result in EAL escalation.

Intrusion into the plant Protected Area by a hostile force would result in escalation to an Alert.

The second condition is included to ensure the appropriate notifications for the security threat are made in a timely manner. The determination of "credible" is made through the use of information found in the Safeguards Contingency Plan. Only the plant or site to which the specific threat is made need declare the Unusual Event. Threats made that are not plant specific or ambiguous to a specific plant (ex. "The Nine Mile Point site") may be conservatively interpreted to include all of the plants on site. This would result in an emergency classification at more than one plant. Guidance in these instances should be provided directly by the individual site security departments and their sources. A higher initial classification could be made based upon the nature and timing of the threat and potential consequences. Consideration shall be given to upgrading the emergency response in accordance with the Safeguards Contingency Plan and Emergency Plan.

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

8.0 Hazards

8.1 Security Threats

PEG Reference(s):

1. HU4.1
2. HU4.2

Basis Reference(s):

1. FitzPatrick Nuclear Power Plant Safeguards Contingency Plan
2. Letter from Mr. B. A. Boger (NRC) to Ms. Lynette Hendricks (NEI) dated 2/4/02
3. NRC order dated 2/25/02

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

8.0 Hazards

8.1 Security Threats

8.1.2 Alert

Intrusion into plant Protected Area by an adversary

OR

Any security event which represents an actual substantial degradation of the level of safety of the plant.

NUMARC IC:

Security event in a plant protected area.

FPB loss/potential loss:

N/A

Mode Applicability:

All

Basis:

This class of security events represents an escalated threat to plant safety above that contained in the Notification of an Unusual Event. For the purposes of this EAL, the intrusion by an adversary inside the Protected Area boundary can be considered a significant security threat. "Intrusion by an adversary" includes those situations where the adversary maybe an employee or other "insider" threat. Intrusion into a vital area by an adversary will escalate this event to a Site Area Emergency.

PEG Reference(s):

HA4.1

HA4.2

Basis Reference(s):

1. JAFNPP Security Contingency Plan
2. FSAR Figure 2.1-4
3. JAFNPP Security Plan

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**8.0 Hazards 8.1 Security Threats****8.1.3 Site Area Emergency**

Intrusion into a plant security vital area by an adversary

OR

Any security event which represents actual or likely failures of plant systems needed to protect the public.

NUMARC IC:

Security event in a plant vital area.

FPB loss/potential loss:

N/A

Mode Applicability:

All

Basis:

This class of security events represents an escalated threat to plant safety above that contained in the Alert in that an adversary has progressed from the Protected Area to a security vital area. "Intrusion by an adversary" includes those situations where the adversary maybe an employee or other "insider" threat. Security vital areas include:

- Pump Room for RHR/ESW Cooling Water
- Cable Tunnels
- Battery Room
- Cable Spreading Room
- Diesel Generator Room
- Electrical Switchgear Room
- Relay Room
- Control Room
- Remote Safe Shutdown Panel for MSIV/ADS No. 25ASP-4.5
- Reactor Building
- Central Alarm Station - Security Building
- Emergency Security Generator Room - Security Building

PEG Reference(s):

HS1.1
HS1.2

Basis Reference(s):

1. FSAR Figure 2.1-4
2. JAFNPP Security Plan

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

8.0 Hazards 8.1 Security Threats

8.1.4 General Emergency

Security event which results in:

Loss of plant control from the Control Room

OR

Loss of remote shutdown capability

NUMARC IC:

Security event resulting in loss of ability to reach and maintain cold shutdown.

FPB loss/potential loss:

N/A

Mode Applicability:

All

Basis:

This EAL encompasses conditions under which unauthorized personnel have taken physical control of vital areas required to reach and maintain safe shutdown.

PEG Reference(s):

HG1.1

HG1.2

Basis Reference(s):

None

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

8.0 Hazards 8.2 Fire or Explosion

8.2.1 Notification of an Unusual Event

Confirmed fire in or contiguous to any plant area, Table 8.2 or Table 8.3, not extinguished in \leq 15 min. of Control Room notification

| Table 8.2 Plant Areas |
|--|
| <ul style="list-style-type: none"> • Stack • Radwaste/Track Bay • Reactor Track Bay • Boiler House • Security Building • CAS Building • #2 Oil Storage Shack • H2 Storage Facility • CAD N2 Storage Building • |

| Table 8.3 Plant Vital Areas Needed For Safe Plant Operation |
|---|
| <ul style="list-style-type: none"> • Reactor Building • Control Room/Relay Room/Cable Spreading Room • Turbine Building • Screenwell/Pumphouse • Diesel Generator Building • Battery Room/Battery Room Corridor |

NUMARC IC:

Fire within protected area boundary not extinguished within 15 minutes of detection.

FPB loss/potential loss:

N/A

Mode Applicability:

All

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2

8.0 Hazards 8.2 Fire or Explosion

8.2.1 Notification of an Unusual Event

Basis:

The purpose of this EAL is to address the magnitude and extent of fires that may be potentially significant precursors to damage to safety systems. This excludes such items as fires within administration buildings, waste-basket fires, and other small fires of no safety consequence.

PEG Reference(s):

HU2.1

Basis Reference(s):

1. FSAR Section 12.3

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**8.0 Hazards 8.4 Natural Events****8.4.4 Alert**

Earthquake felt inplant based upon a consensus of Control Room Operators on duty

AND

JAFNPP seismic activity alarm (EPIC A-124) actuated

AND

Confirmation of seismic event > 0.08 g by NMP-2

NUMARC IC:

Natural and destructive phenomena affecting the plant vital area.

FPB loss/potential loss:

N/A

Mode Applicability:

All

Basis:

This EAL addresses events that may have resulted in a plant vital area being subjected to forces beyond design limits, and thus damage may be assumed to have occurred to plant safety systems. The initial report should not be interpreted as mandating a lengthy damage assessment prior to classification. No attempt is made in this EAL to assess the actual magnitude of the damage.

This EAL is based on the FSAR design operating basis earthquake of 0.08 g. Seismic events of this magnitude can cause damage to plant safety functions.

PEG Reference(s):

HA1.1

Basis Reference(s):

1. AOP-14 Earthquake
2. FSAR Section 12.4.6.1
3. FSAR Section 12.3
4. FSAR Section 2.4.3.7

FIGURE IAP-2.2 - JAF EAL TECHNICAL BASES DOCUMENT, Rev. 2**8.0 Hazards 8.4 Natural Events****8.4.5 Alert**

Sustained winds > 90 mph

OR

Tornado strikes a plant vital area, Table 8.3

**Table 8.3 Plant Vital Areas
Needed For Safe Plant Operation**

- Reactor Building
- Control Room/Relay Room/Cable Spreading Room
- Turbine Building
- Screenwell/Pumphouse
- Diesel Generator Building
- Battery Room/Battery Room Corridor

NUMARC IC:

Natural and destructive phenomena affecting the plant vital area.

FPB loss/potential loss:

N/A

Mode Applicability:

All

Basis:

This EAL addresses events that may have resulted in a plant vital area being subjected to forces beyond design limits, and thus damage may be assumed to have occurred to plant safety systems. The initial report should not be interpreted as mandating a lengthy damage assessment prior to classification. No attempt is made in this EAL to assess the actual magnitude of the damage.

This EAL is based on the FSAR design basis of 90 mph. Wind loads of this magnitude can cause damage to safety functions.

The JAFNPP Protected Area boundary is illustrated in FSAR Figure 2.1-4.

PEG Reference(s):

HA1.2

Basis Reference(s):

1. FSAR Section 12.4.6.1
2. FSAR Section 12.3
3. FSAR Section 2.4.3.7
4. EAP-42 Obtaining Meteorological Data
5. FSAR Figure 2.1-4

ATTACHMENT B - Word List/Definitions

Page 3 of 8

Can/Cannot be restored above/below (</>)

The value of the identified parameter(s) is/is not able to be returned to above/below specified limits. This determination includes making an evaluation that considers both current and future systems performance in relation to the current value and trend of the parameter(s). Neither implies that the parameter must actually exceed the limit before the classification is made nor that the classification must be made before the limit is reached. Does not imply any specific time interval but does not permit prolonged operation beyond a limit without making the specified classification.

As applied to loss of electrical power sources (ex.: Power cannot be restored to any vital bus in < 4 hrs) the specified power source cannot be returned to service within the specified time. This determination includes making an evaluation that considers both current and future restoration capabilities. Implies that the declaration should be made as soon as the determination is made that the power source cannot be restored within the specified time.

Close

To position a valve or damper so as to prevent flow of the process fluid.

To make an electrical connection to supply power.

Confirm / Confirmation

To validate, through visual observation or physical inspection, that an assumed condition is as expected or required, without taking action to alter the "as found" configuration.

Contiguous

Being in actual contact; touching along a boundary or at a point

Control

Take action, as necessary, to maintain the value of a specified parameter within applicable limits; to fix or adjust the time, amount, or rate of; to regulate or restrict.

Decrease

To become progressively less in size, amount, number, or intensity.

Discharge

Removal of a fluid/gas from a volume or system.

ATTACHMENT B - Word List/Definitions

PAGE 4 of 8

Drywell

That component of the BWR primary containment which houses the RPV and associated piping.

Enter

To go into.

Establish

To perform actions necessary to meet a stated condition. "Establish communication with the Control Room."

Evacuate

To remove the contents of; to remove personnel from an area.

Exceeds

To go or be beyond a stated or implied limit, measure, or degree.

Exist

To have being with respect to understood limitations or conditions.

Failure

A state of inability to perform a normal function.

General Emergency

Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

If

Logic term which indicates that taking the action prescribed is contingent upon the current existence of the stated condition(s). If the identified conditions do not exist, the prescribed action is not to be taken and execution of operator actions must proceed promptly in accordance with subsequent instructions.

Increase

To become progressively greater in size, amount, number or intensity.

ENTERGY NUCLEAR OPERATIONS, INC.
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURE

RECOVERY SUPPORT GROUP MANAGER
EAP-32
REVISION 10

APPROVED BY: *[Signature]*

DATE: 7/21/03

RESPONSIBLE PROCEDURE OWNER

EFFECTIVE DATE: August 8, 2003

FIRST ISSUE

FULL REVISION

LIMITED REVISION

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| ***** | ***** |
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| ***** | ***** |
| * ADMINISTRATIVE * | CONTROLLED COPY # <u>34</u> |
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PERIODIC REVIEW DUE DATE: MAY 2008

REVISION SUMMARY SHEET

| REV. NO. | CHANGE AND REASON FOR CHANGE |
|----------|--|
| 10 | <ul style="list-style-type: none">• Added pager numbers for new RSGM pagers.• Added note 2 to attachment 2 concerning pager activation. |
| 9 | <ul style="list-style-type: none">• Clarified Recovery Support Group Manager/Designee by referencing on-call list.• Updated Attachment 1 and 2. |
| 8 | <ul style="list-style-type: none">• Updated phone numbers on Attachment 2, Recovery Support Group Corporate Call List. |
| 7 | <ul style="list-style-type: none">• Updated phone numbers on Attachment 2, Recovery Support Group Corporate Call List. |
| 6 | <ul style="list-style-type: none">• Updated phone numbers on Attachment 2, Recovery Support Group Corporate Call List. |
| 5 | <ul style="list-style-type: none">• Updated phone numbers on Attachment 2, Recovery Support Group Corporate Call List.• Changed the cover sheet to reflect the company name change. |
| 4 | <ul style="list-style-type: none">• Updated phone numbers on Attachment 2, Recovery Support Group Corporate Call List. |
| 3 | <ul style="list-style-type: none">• Updated phone numbers on Attachment 2, Recovery Support Group Corporate Call List. |

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1.0 PURPOSE

The purpose of this procedure is to provide instruction to the Recovery Support Group Manager (RSGM). The Recovery Support Group Manager coordinates requests for personnel, equipment and materials, and support services.

This procedure is implemented by the on call Recovery Support Group Manager (RSGM) in the event of an emergency at the plant which requires notification of the Recovery Manager and the coordination of corporate resources during the EMERGENCY PHASE, and/or activation of the Recovery Organization during the RECOVERY PHASE.

The Recovery Support Group Manager is responsible for:

- Notifying the Recovery Manager of emergencies and keeping him informed of the emergency status.
- Coordinating requests for corporate support.
- Coordinating requests for other personnel, equipment and materials, and support services.
- Notifying and coordinating requests for assistance with offsite support organizations as directed by the Recovery Manager.

2.0 REFERENCES

2.1 Performance References

- 2.1.1 Appendix F, Typical Support Companies and Organizations
- 2.1.2 Section 9, Recovery
- 2.1.3 EAP-33, Development of a Recovery Action Plan

2.2 Developmental References

NONE

3.0 INITIATING EVENTS

3.1 Emergency conditions have been declared as per IAP-2, Classification of Emergency Conditions (FOR STEPS 4.1 AND 4.2).

3.2 Emergency conditions have been controlled and/or corrected and the emergency terminated as per IAP-2, Classification of Emergency Conditions, and entry into the Recovery phase is required (FOR STEPS 4.3 AND 4.4).

4.0 PROCEDURE

4.1 Notifications

4.1.1 Receive notification of the emergency from the plant.

4.1.2 Confirm the notification with plant staff and ascertain the situation. Refer to Attachment 1.

4.1.3 Notify the Recovery Manager of the emergency.

4.2 Activation

4.2.1 Establish and maintain communications with the Recovery Manager during the EMERGENCY PHASE.

4.2.2 Coordinate corporate resources through normal channels to support the plant during the EMERGENCY PHASE as requested by the Recovery Manager.

4.2.3 Notify offsite support organizations to support the plant during the EMERGENCY PHASE as requested by the Recovery Manager. Organizations which may be called upon to provide assistance are listed in JAFNPP Appendix F.

4.2.4 IF RECOVERY OPERATIONS ARE REQUIRED, report to the designated Recovery Center (EOF or other location).

4.3 Recovery Operations

4.3.1 Assist the Recovery Manager to determine corporate capabilities required for Recovery Support Group (see JAFNPP Plan Section 9).

-
- 4.3.2 Coordinate corporate resources to support Recovery operations. A Recovery Support Group Call List is included in this procedure as Attachment 2.
 - 4.3.3 Coordinate requests for other personnel, equipment and materials, and support services through the Recovery Support Group organization.
 - 4.3.4 Coordinate support from offsite support organizations. Organizations which may be called upon to provide assistance are listed in JAFNPP Emergency Plan Appendix F.
 - 4.3.5 Develop a shift-rotation schedule for the Recovery Support Group as needed.
 - 4.3.6 Coordinate the implementation of tasks appropriate to the Recovery Support Group in EAP-33, Development of a Recovery Action Plan.
 - 4.3.7 Continue to update the Recovery Manager on the status of Recovery Support Group operations.
 - 4.3.8 Monitor progress of Recovery Support Group and Recovery Support Group tasks in the Recovery Action Plan and provide assistance/coordination where appropriate.
 - 4.3.9 Assist the Recovery Manager to determine resource requirements for Recovery functions considering the following:
 - A. Need for additional personnel required for long-term recovery efforts
 - B. Need for offsite technical assistance
 - C. Need for supplies, equipment, parts, and other material.

4.4 Terminate Recovery Operations

- 4.4.1 Ensure the completion or dispositioning of Recovery Support Group tasks outlined in the Recovery Action Plan.

4.4.2 Ensure that appropriate offsite agencies/organizations have been notified of the termination of Recovery.

4.4.3 Ensure that all Recovery Support Group actions have been documented.

5.0 **ATTACHMENTS**

1. Recovery Support Group Manager Initial Actions
2. Recovery Support Group Corporate Call List

ATTACHMENT 2

RECOVERY SUPPORT GROUP CORPORATE CALL LIST

| TITLE | NAME | HOME PHONE | WORK PHONE | PAGER # |
|---|-------------------|----------------------------------|----------------|------------------------------|
| Recovery Manager | H. Salmon (A) | (914) 734-7690 | (914) 272-3220 | 800-734-9140 |
| | D. Robson (B) | (914) 686-7284 | (914) 272-3452 | 800-844-8084 Pin:1487471 |
| | T. Dougherty (C) | (718) 961-1907 | (914) 272-3451 | 718-3451 |
| | J. Kelly (D) | (845) 947-2095 | (914) 272-3370 | 888-593-5942 |
| Recovery Support Group Manager | G. Wilverding (A) | (203) 938-0540 | (914) 272-3375 | 1-888-460-5752** |
| | M. KARASULU (B) | (914) 245-0525 | (914) 272-3442 | 1-888-456-1253** |
| | G. Canavan (C) | (212) 989-0449 | (914) 272-3440 | 1-888-449-8960** |
| | G. Rorke (D) | (516) 767-7587 | (914) 272-3428 | 1-888-460-2309** |
| Radiological Support | G. Re' | (914) 739-5694 | (914) 272-3441 | 718-3441* |
| | J. Furfaro | (845) 528-2497 | (914) 272-3426 | 718-3426* |
| Engineering Programs Support | R. Penny | (914) 741-5001 | (914) 272-3510 | 917-317-0127 |
| | J. Goldstein | (914) 248-5688 | (914) 272-3512 | 718-3512* |
| Licensing Support | C. Faison | (914) 793-1262 | (914) 272-3378 | 917-787-4947 |
| | P. Kokolakis | (212) 724-6141 | (914) 272-3373 | 917-632-0103 |
| Fuel Management Support | G. Rorke (JAF) | (516) 767-7587 | (914) 272-3428 | 718-3428* |
| | G. Canavan (IP3) | (212) 989-0449 | (914) 272-3440 | 718-3440* |
| Engineering Support | R. Becht | (203) 431-6769 | (914) 272-3275 | 718-3275* |
| Public Relations Support | L. Gottlieb | (914) 747-3836 | (914) 272-3360 | 800-946-4646 1417799 |
| | M. McGillicuddy | (914) 381-0601 | (914) 272-3363 | 917-738-0952 |
| Legal Affairs Support | J. Fulton | (781) 893-8569 (914) 683-8559 | (914) 272-3502 | 888-397-1821 |
| | J. Blount | (601) 368-5689 | (601) 368-5680 | |
| Material, Purchasing and Contract Support | R. Robinson | (914) 232-6491 | (914) 272-3305 | |
| | J. Morrison | (914) 332-4881 | (914) 272-3306 | |
| Financial Support | J. Reagan | (845) 429-7921 | (914) 272-3233 | |
| | S. Warbington | (914) 949-3829 | (914) 272-3234 | 877-981-3718 |
| Insurance Mgmt. Support | T. Weir | (203) 730-1739 | (914) 272-3300 | 800-844-8084 PIN: 1491369 |
| Offsite Security Support | E. Beckendorf | (914) 528-0109 | (914) 272-3237 | 800-538-3452 |
| | K. Gardner | (203) 778-2012 | (914) 272-3211 | 800-844-8084 PIN: 1409539 |
| Quality Assurance Support | R. Patch | (914) 328-5362 | (914) 272-3260 | 718-3260* |
| | M. Mui | (845) 365-0547 | (914) 272-3271 | 800-650-8755 |

Note 1: Letter designation after the name is Team designation.

*1-800-436-2732

Note 2: To activate all four (4) pagers simultaneously

**1-800-759-8888 pin 1170881

OTHER NOTIFICATIONS

CHIEF OPERATING OFFICER
M.R. Kansler

Home
914-934-0395
Cell Phone: 914-649-5186

Pager
800-844-8084
PIN: 6109527

ENTERGY NUCLEAR OPERATIONS, INC.
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURE

MONTHLY SURVEILLANCE PROCEDURE FOR ON-CALL EMPLOYEES
SAP-7
REVISION 37

APPROVED BY: *[Signature]*
RESPONSIBLE PROCEDURE OWNER

DATE: 7/23/03

EFFECTIVE DATE: August 8, 2003

FIRST ISSUE FULL REVISION LIMITED REVISION

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|-----------------------|-----------------------------|
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PERIODIC REVIEW DUE DATE: OCTOBER 2005

REVISION SUMMARY SHEET

REV. NO.

- 37
- Updated title from Emergency Planning Coordinator to Emergency Preparedness Manager throughout the entire procedure.
 - In section 4.10 changed person responsible to initiate Fridays pager test from Emergency Planning to Security.
 - Deleted word "only" from section 4.6
 - Editorial corrections.
- 36
- Step 4.8, added wording to allow exception to the one hour requirement by the EPC
- 35
- Deleted step 4.3.
 - Add steps 4.8 and 4.9 to include criteria for test acceptance criteria and documentation.
 - Corrected step 4.6 to remove "Badge Number (4 digits)" and insert "Phone Number (7 digits)".
 - Changed step 4.5 to correct "Pager" to "Pagers".
 - Changed step 4.7 - Reworded for clarity second sentence.
 - Renumbered remaining steps to reflect changes.
 - Removed GM - Support Services approval line from the cover sheet per AP-02.04.
- 34
- Added "at least once per month" to pager operability testing.
- 33
- Replaced T. Carroll with P. Chaldu on Attachment 2 - change of personnel.

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1.0 PURPOSE

The purpose of this procedure is to provide a means of testing the JAFNPP Emergency Plan On-Call Employee capabilities.

2.0 REFERENCES

2.1 Performance References

NONE

2.2 Developmental References

2.2.1 EAP-17, EMERGENCY ORGANIZATION STAFFING

3.0 INITIATING EVENTS

NONE

4.0 PROCEDURE

4.1 Emergency Plan On-Call Employee Schedules shall be developed by the Emergency Preparedness Manager. The Corporate Emergency Preparedness Group will develop the Nuclear Generation Duty Officer schedule.

4.2 The Emergency Plan On-Call Employee Schedule consists of positions listed in EAP-17.

4.3 Periodically (at least quarterly) a pager test of the on duty section will be initiated by the Emergency Preparedness Manager.

4.4 The Emergency Preparedness Manager or designee shall give the Community Alert Network (CAN) operator the following:

A. Name of individual authorizing test

B. PASSWORD

C. Time test is to be conducted

4.5 CAN will activate pagers and enter proper pager codes (Numerical Message).

- 4.6 On duty section shall call 1-800-205-5175 and follow prompts. The system will ask for phone number (7 digits) and travel time to their emergency response facility in minutes (2 digits).
- 4.7 CAN will keep incoming lines open for 1 hour. CAN will fax the results of the test to Emergency Preparedness Manager for evaluation. The fax and resolution of any problems shall be retained by the Emergency Preparedness Manager.
- 4.8 An acceptable test is when at least one individual is available to respond for each ERO position listed in the Staff Call Out Matrix of EAP-17 (EMERGENCY ORGANIZATION STAFFING). The individual is considered available when, after pager activation, the individual can report to their assigned facility within one hour. Demonstration of this will be through calling of the 1-800 call-back line or other means if the call-back number is not working. Other means include contacting Emergency Planning at the time of the test, or the following day. Exceptions to the one hour response will be permitted for JNC staff at the discretion of the Emergency Preparedness Manager.
- 4.9 Emergency Planning shall document the results of the off-hours pager tests by producing a memo to file. The document shall include, as a minimum, the date and time of the test, names of on-call individuals who did not respond, reasons for not responding, indication of any CR's written and statement of test acceptability.
- 4.10 Pager operability test should be initiated by Security at approximately 1130 hrs on Fridays, at least once per month.

5.0 **ATTACHMENTS**

None