Nebraska Public Power District
Nebraska's Energy Leader

NLS2001105
November 29, 2001

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

Gentlemen:

Subject: Emergency Plan Implementing Procedures
Cooper Nuclear Station, NRC Docket 50-298, DPR-46

Pursuant to the requirements of 10 CFR 50, Appendix E, Section V, "Implementing Procedures," Nebraska Public Power District is transmitting the following Emergency Plan Implementing Procedures (EPIPs):

EPIP 5.7.1	Revision 28	"Emergency Classification"
EPIP 5.7.2	Revision 16	"Shift Supervisor EPIP"
EPIP 5.7.7	Revision 27	"Activation of TSC"
EPIP 5.7.8	Revision 21	"Activation of OSC"
EPIP 5.7.9	Revision 22	"Activation of EOF"
EPIP 5.7.12	Revision 14	"Emergency Radiation Exposure Control"
EPIP 5.7.22	Revision 21	"Communications"

Should you have any questions concerning this matter, please contact me.

Sincerely,

J. A. Hutton
Plant Manager

/nr
Enclosures

cc: Regional Administrator w/enclosures (2)
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The following table identifies those actions committed to by the District in this document. Any other actions discussed in the submittal represent intended or planned actions by the District. They are described for information only and are not regulatory commitments. Please notify the NL&S Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

COMMITMENT	COMMITTED DATE OR OUTAGE
None	

CNS OPERATIONS MANUAL EPIP 5.7.1 EMERGENCY CLASSIFICATION	USE: REFERENCE EFFECTIVE: 11/1/01 APPROVAL: SORC OWNER: R. J. FISCHER DEPARTMENT: EP

1. PURPOSE

This procedure provides the formal set of threshold conditions necessary to classify an event at CNS into one of the four emergency classifications described in NUREG-0654 and the CNS Emergency Plan.

2. PRECAUTIONS AND LIMITATIONS

2.1 The steps required by this procedure are in addition to the steps required to maintain or restore the station to a safe condition.

2.2 If conflicts in personnel assignments or sequence of actions arise, first priority will be given to maintaining or restoring the station to a safe condition.

3. REQUIREMENTS

3.1 An Emergency Operation Procedure has been initiated; or

3.2 An unusual occurrence has taken place at or near the site.

4. CLASSIFICATION AND DECLARATION

4.1 After recognition of an off-normal event, Shift Supervisor shall:

[ ] 4.1.1 Compare the event to EALs in Attachments 1 and 5.

[ ] 4.1.2 If more than one EAL of different classification levels is reached, i.e., an EAL for ALERT or an EAL for SITE AREA EMERGENCY, select EAL for most severe emergency classification.

[ ] 4.1.3 If the event appears to meet an EAL, refer to Attachment 2 for further explanation and guidance.

[ ] 4.1.4 If it is determined that an EAL is met:

[ ] 4.1.4.1 Assume Emergency Director responsibilities until relieved by another qualified Emergency Director.

[ ] 4.1.4.2 Declare the emergency.

[ ] 4.1.4.3 Record the emergency class, time of declaration, and EAL number in the Shift Supervisor's Log.

[ ] 4.1.4.4 Enter Procedure 5.7.2 and perform the actions directed.

[ ] 4.1.4.5 Continue to monitor and re-evaluate emergency classification per this procedure until the event is terminated.

[ ] 4.1.5 When relieved of Emergency Director duties by another qualified Emergency Director located in the EOF, the Shift Supervisor shall no longer be responsible for performance of actions specified in this procedure or Procedure 5.7.2.

[ ] 4.1.5.1 The Emergency Director may direct the Shift Supervisor to perform specific actions, such as activation of emergency alarm, which can only be performed from the Control Room.

[ ] 4.1.5.2 The Shift Supervisor shall bring to the attention of the Emergency Director, changing plant conditions which may affect the emergency classification.

5. CLASSIFICATION GUIDANCE

5.1 Four standardized emergency classes have been established; they are:

[ ] 5.1.1 NOTIFICATION OF UNUSUAL EVENT

[ ] 5.1.1.1 This classification is comprised of events in progress, or which have occurred, that indicate a potential degradation of the level of safety of the station. These types of events may progress to a more severe emergency classification if they are not mitigated. No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.

[ ] 5.1.2 ALERT

[ ] 5.1.2.1 This classification is comprised of events in progress, or which have occurred, that involve an actual or potentially substantial degradation of the safety level of the station. At this classification level, minor releases of radioactivity may occur or may have occurred. Any releases expected to be limited to small fractions of EPA Protective Action Guideline exposure levels.

[ ] 5.1.3 SITE AREA EMERGENCY

[ ] 5.1.3.1 This classification is comprised of events in progress, or which have occurred, which involve actual or potential major failure of plant functions needed for protection of the public. Releases are not expected to exceed EPA Protective Action Guidelines, except near the Site Boundary.

[ ] 5.1.4 GENERAL EMERGENCY

[ ] 5.1.4.1 This classification is comprised of events in progress, or which have occurred, that involve actual or imminent substantial core degradation or melting with a potential for the loss of primary containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels off-site for more than the immediate site area.

5.2 Possible events are divided into eight categories which are intended to bracket the Initiating Conditions listed in NUREG-0654, Revision 1, Appendix 1, as further defined and revised by Reference 3.3.6. The eight categories are:

[ ] 5.2.1 Radiological.

[ ] 5.2.2 Fission product barrier threat or loss.

[ ] 5.2.3 Operational.

[ ] 5.2.4 Power or alarms.

[ ] 5.2.5 Fire; flammable or toxic material.

[ ] 5.2.6 Security.

[ ] 5.2.7 Natural phenomenon.

[ ] 5.2.8 Other hazards.

5.3 Prompt recognition of the occurrence of one or more initiating events may prevent the situation from progressing to a classification of greater severity.

5.4 An emergency may warrant classification as a result of a combination of two or more events. Ensure each abnormal condition is evaluated against classification criteria.

5.5 The EAL Matrix (Attachments 1 and 5) is designed to assist in quickly locating the appropriate category of accident. The matrix is <u>not</u> to be used independently of the rest of the procedure when making classification decisions.

5.6 For classification purposes, grams, CCs, and milliliters are equivalent.
1 μCi/gm ~ 1 μCi/cc ~ 1 μCi/ml

6. RECLASSIFICATION

6.1 An emergency may escalate to a higher classification if station conditions deteriorate or as a result of a combination of two or more events.

6.2 An emergency may be initially classified at one class and, upon further investigation or after corrective actions, may be reclassified or terminated.

6.3 If any GENERAL EMERGENCY has been declared, consultation with state authorities and the NRC should occur prior to reclassification or termination of the event.

6.4 Compare changing station conditions with the Emergency Action Levels in Attachment 2 and reclassify, as necessary.

Emergency Class	NOUE	Alert
Radiological	1.1.1 Uncontrolled, unmonitored radiological release of liquid outside the Protected Area. 1.1.2 Off-Site Dose Assessment Manual (ODAM) limits exceeded as indicated by a HIGH-HIGH alarm on a gaseous effluent radiological monitor which cannot be cleared within 30 minutes.	1.2.1 Loss of control of radioactive material resulting in area radiation exceeding 1000X normal (or expected) levels within the Protected Area. Normal is determined by trend recorder or other relevant data. 1.2.2 Gaseous effluent radiological monitors indicate a release rate ten times the Off-Site Dose Assessment Manual (ODAM) limits, without indication of fuel cladding loss.
Fission Product Barrier Threat or Loss	2.1.1 Steam Jet Air Ejector radiation monitor reads > 1.5 E+3 mrem/hr or an increase of 3.0 E+2 mrem/hr within a 30 minute period. 2.1.2 Coolant sample activity exceeds 4 µCi/gm DOSE EQUIVALENT I-131. 2.1.3 Any operational RCS pressure boundary LEAKAGE; or unidentified LEAKAGE exceeds 5 gpm; or total LEAKAGE exceeds 30 gpm averaged over a previous 24 hour period; or unidentified LEAKAGE increase of more than 2 gpm within the previous 24 hour period in MODE 1.	2.2.1 Loss of fuel cladding or Primary Coolant Boundary fission product barriers (refer to Attachment 3 for indication).
Operational	3.1.1 Inability to meet the Action Statement associated with a Technical Specification Limiting Condition for Operation (LCO).	3.2.1 Fuel handling accident on the refueling floor with release of radioactivity to secondary containment as indicated by HIGH alarm on refueling floor ARM #2, CAM, or Reactor Building ventilation monitor. 3.2.2 Evacuation of Control Room required or anticipated with control of shutdown systems established from local stations. 3.2.3 Complete loss of capability to place or maintain the plant in MODE 4 or 5. 3.2.4 Failure of Reactor Protection System (RPS) to initiate and complete a scram which brings the reactor subcritical.
Power or Alarms	4.1.1 Loss of ALL off-site power sources to vital busses "F" and "G" for > 15 minutes. 4.1.2 Unplanned loss of most or all safety system annunciators.	4.2.1 Loss of all AC power (on and off-site sources) to vital busses "F" and "G" during MODE 4 or 5. 4.2.2 Loss of all DC power sources resulting in loss of all ECCS capability for < 15 minutes. 4.2.3 Unplanned loss of most or all safety system annunciators with a transient in progress.
Fire Flammable Toxic	5.1.1 Any fire within the Protected Area which takes longer than 10 minutes to extinguish. 5.1.2 Report or detection of toxic or flammable gases that could enter the Protected Area in amounts that will affect the health of plant personnel or can effect normal operation of the plant.	5.2.1 A fire with a potential to cause degradation of a plant safety system required to be OPERABLE. 5.2.2 Report or detection of toxic or flammable gases within a Vital Area in concentrations that will be life threatening to plant personnel or will affect the safe operation of the plant.
Security	6.1.1 Security threat, attempted entry, or attempted sabotage.	6.2.1 On-going security compromise.
Natural Phenomenon	7.1.1 Ground motion > 0.01g as indicated by Control Room seismic monitoring panel. 7.1.2 River level > 899' or < 867'. 7.1.3 Tornado touching down within the Owner Controlled Area. 7.1.4 Sustained wind speed > 74 mph.	7.2.1 Ground motion > 0.1g as indicated by Control Room seismic monitoring panel. 7.2.2 River level > 902' or < 865'. 7.2.3 Tornado touching down within the Protected Area. 7.2.4 Sustained wind speed > 95 mph.
Other Hazards	8.1.1 Aircraft crash within the Protected Area. 8.1.2 Explosion within the Protected Area. 8.1.3 Failure of a turbine rotating component causing an automatic reactor scram with release of radioactivity to the Turbine Building or which potentially affects safety systems. 8.1.4 Other conditions existing which in the judgement of the Emergency Director warrant declaration of an Usual Event.	8.2.1 Aircraft striking structures within the Protected Area. 8.2.2 Missile impact, from whatever source, within the Protected Area. 8.2.3 Known explosion damage to the facility affecting plant operation. 8.2.4 Turbine failure causing casing penetration which creates serious radiological concerns or damages plant safety systems. 8.2.5 Other conditions existing which in the judgement of the Emergency Director warrant declaration of an Alert.

Site Area Emergency	General Emergency
1.3.1 Radiological gaseous effluent releases resulting in Total Effective Dose Equivalent (TEDE) projection at or beyond the Site Boundary of > 0.1 REM. 1.3.2 Radiological gaseous effluent releases resulting in Committed Dose Equivalent (CDE) (thyroid) projection at or beyond the Site Boundary of > 0.5 REM.	1.4.1 Radiological gaseous effluent releases resulting in Total Effective Dose Equivalent (TEDE) dose at or beyond the Site Boundary of 1 REM. 1.4.2 Radiological gaseous effluent releases resulting in Committed Dose Equivalent (CDE) (thyroid) dose at or beyond the Site Boundary of 5 REM.
2.3.1 Degraded core with a possible loss of coolable geometry as indicated by: A.1 Greater than or equal to 20% gap activity as determined by Chemistry. OR A.2 Primary Containment radiation monitors read > 1.0 E+4 REM/hr. AND B.1 High core plate Dp for the corresponding core flow. OR B.2 Inability to insert in-core detectors. 2.3.2 Known loss of coolant accident greater than makeup capacity. 2.3.3 Loss of any TWO fission product barriers. The fission product barriers are defined as follows (refer to Attachment 3 for indication): A. Fuel Cladding. B. Primary Coolant Boundary. C. Primary Containment.	2.4.1 Loss of any TWO of THREE fission product barriers AND the potential exists for loss of the THIRD. The fission product barriers are defined as follows (refer to Attachment 3 for indication): A. Fuel Cladding. B. Primary Coolant Boundary. C. Primary Containment.
3.3.1 Major damage to irradiated fuel or fuel pool water level below the top of the spent fuel. 3.3.2 Evacuation of the Control Room accompanied by the inability to locally control shutdown systems within 15 minutes. 3.3.3 Complete loss of all available means to place or maintain the plant in MODE 3. 3.3.4 Failure of the Reactor Protection System (RPS), including Alternate Rod Insertion (ARI), to bring the reactor subcritical.	3.4.1 Failure of the Reactor Protection System (RPS) or alternate rod insertion or SLC to bring the reactor subcritical which could result in a core meltdown with subsequent containment failure likely. 3.4.2 Other plant conditions exist, from whatever source, which make a release of large amounts of radioactivity in a short time possible (e.g., any core melt situation).
4.3.1 Loss of all AC power (on and off-site sources) for more than 15 minutes with the Reactor in MODE 1, 2, or 3. 4.3.2 Loss of all DC power sources required for ECCS operation for more than 15 minutes. 4.3.3 Inability to monitor a significant transient in progress.	4.4.1 Total loss of all AC power (on and off-site sources) with the inability to keep the core covered.
5.3.1 Fire compromising the functions of safety systems.	5.4.1 Any major internal or external fire substantially beyond the design basis which could cause massive common damage to plant systems.
6.3.1 Imminent loss of physical control of the station.	6.4.1 Loss of physical control of the station.
7.3.1 Ground motion > 0.1g as indicated on the Control Room seismic monitoring panel AND reports of major plant damage. 7.3.2 Sustained wind speed > 100 mph. 7.3.3 Flood which renders multiple ECCS systems inoperable when they are required to be OPERABLE. 7.3.4 Low river level which results in complete loss of the Service Water System.	7.4.1 Any major natural phenomenon substantially beyond the design basis which could cause massive common damage to plant systems.
8.3.1 Aircraft crash affecting vital areas with the plant in MODE 1, 2, or 3. 8.3.2 Missile or explosion damage to safe shutdown equipment with the plant in MODE 1, 2, or 3. 8.3.3 Other conditions existing which in the judgement of the Emergency Director warrant declaration of a Site Area Emergency.	8.4.1 Other conditions existing which in the judgement of the Emergency Director warrant declaration of a General Emergency (i.e., any core melt situation).

CLASSIFICATION **EAL: 1.1.1**

NOUE

TEXT

Uncontrolled, unmonitored radiological release of liquid outside the Protected Area.

APPLICABILITY

ALL

EXAMPLE

Unisolable leak from a condensate storage tank into the discharge canal.

MEMO

The actual dose is generally not the primary concern; it is the degradation in plant control implied by the fact that the release was not isolated. To be conservative, it is to be assumed that any radiologically contaminated liquid released off-site in an uncontrolled, unmonitored fashion has the potential to exceed RETS limits. Therefore, any uncontrolled, unmonitored release of radioactive liquid outside the Protected Area will meet this EAL.

REFERENCES

NUREG-0654: N.02

CLASSIFICATION **EAL: 1.1.2**

NOUE

TEXT

Off-Site Dose Assessment Manual (ODAM) limits exceeded as indicated by a HIGH-HIGH alarm on a gaseous effluent radiological monitor which cannot be cleared within 30 minutes.

APPLICABILITY

ALL

EXAMPLE

Turbine Building KAMAN alarms. "TG BLDG VENT HIGH-HIGH RAD" annunciator is received. Release is verified, but cannot be stopped.

MEMO

The HIGH-HIGH alarm in the text of this EAL refers to the normal range KAMAN. Each gaseous effluent stream has two alarm setpoints. Under normal circumstances, the high alarm will come in first allowing operator action to stop or reduce the release. The HIGH-HIGH alarm is set at (or near) the RETS release rate limit. Because the RETS limit (being based on a yearly continuous dose projection) is extremely conservative, the 30 minute delay in verifying the alarm and attempting to clear it is justified.

Reduce power or isolate systems as appropriate. If alarm is valid, and release cannot be reduced to below RETS release rate limits or terminated in 30 minutes, declare.

REFERENCES

NUREG-0654: N.02

CLASSIFICATION **EAL: 1.2.1**

ALERT

TEXT

Loss of control of radioactive material resulting in area radiation exceeding 1000X normal (or expected) levels within the Protected Area. Normal is determined by trend recorder or other relevant data.

APPLICABILITY

ALL

EXAMPLE

Radiography source becomes uncoupled and lost. RP survey indicates direct radiation has increased by > 1000 times.

MEMO

By themselves, indications of increased levels of radiation only meet the **NOUE** class description; however, when combined with "loss of control" a higher classification is warranted. Non-essential personnel should be assembled off-site. Additional manpower or other resources will likely be needed. The ALERT classification is appropriate.

The operative phrase in this EAL is "loss of control". Combined with this is the phrase "or expected levels". For most plant evolutions increases of radiation can be estimated, most within a factor of 1000. If, in the judgement of those concerned, control has been lost, AND radiation levels increase beyond 1000X normal or expected levels, declare.

REFERENCES

NUREG-0654: A.06

NUREG-0654: A.12

CLASSIFICATION **EAL: 1.2.2**

ALERT

TEXT

Gaseous effluent radiological monitors indicate a release rate ten times the Off-Site Dose Assessment Manual (ODAM) limits without indication of fuel cladding loss.

APPLICABILITY

ALL

EXAMPLE

Operating at 100% power AOG is lost. ERP KAMAN reading goes to 1.13 E+7 μCi/sec.

MEMO

This ERP KAMAN reading will exceed ten times the ODAM instantaneous limit. Rely on the PMIS "ten times ODAM Limit Exceeded" flag.

If there are any indications that the fuel cladding is not intact (fuel has been uncovered, SJAE monitors > 1.5 E+4 mrem/hr, PASS sample, Primary Containment radiation monitors > 2.5 E+3 REM/hr, or other) the iodine component will result in a higher dose and may also warrant a higher classification.

NOTE - Radiation release resulting in an ALERT is an EOP entry condition.

REFERENCES

NUREG-0654: A.15

CLASSIFICATION **EAL: 1.3.1**

SITE AREA EMERGENCY

TEXT

Radiological gaseous effluent releases resulting in Total Effective Dose Equivalent (TEDE) projection at or beyond the Site Boundary of > 0.1 rem.

APPLICABILITY

ALL

EXAMPLE

ARW KAMAN reads 5 E+6 μCi/sec. With default wind speed (8 mph) and stability class (D), Standby Gas Treatment is not in the release path, the core is not degraded, secondary containment is bypassed, and the reactor not shutdown, an integrated dose for 4 hours at 1 mile of > 0.1 REM TEDE is projected.

MEMO

If a release greater than license limits is under way, or suspected, and any dose assessment model or methodology indicates a Site Boundary integrated TEDE dose of > 0.1 rem, classify and follow applicable procedures. This is the conservative response. Conservative is defined as that action which yields the greatest possible protection of the public from radiological consequences.

This EAL is related to integrated dose; therefore, the estimated length of release is critical to obtain an accurate integrated dose projection. As conditions change, dose projections should be re-calculated.

REFERENCES

NUREG-0654: S.13

CLASSIFICATION **EAL: 1.3.2**

SITE AREA EMERGENCY

TEXT

Radiological gaseous effluent releases resulting in Committed Dose Equivalent (CDE) (thyroid) projection at or beyond the Site Boundary of > 0.5 REM.

APPLICABILITY

ALL

EXAMPLE

ERP KAMAN reads 2 E+6 μCi/sec. The core has been uncovered (dose assessment question on core degraded = YES). SBGT is not in the path. The reactor has been shutdown for 30 minutes and secondary containment has been bypassed. With default wind speed (13 mph) and stability class (D), a CDE dose > 0.5 rem over 4 hours is projected.

MEMO

If a release greater than license limits is under way, or suspected, and any dose assessment model or methodology indicates a Site Boundary integrated CDE dose of > 0.5 rem, classify and follow applicable procedures. This is the conservative response. Conservative is defined as that action which yields the greatest possible protection of the public from radiological consequences.

REFERENCES

NUREG-0654: S.13

CLASSIFICATION **EAL: 1.4.1**

GENERAL EMERGENCY

TEXT

Radiological gaseous effluent releases resulting in Total Effective Dose Equivalent (TEDE) dose at or beyond the Site Boundary of 1 REM.

APPLICABILITY

ALL

EXAMPLE

Turbine Building KAMAN reads 2 E+8 μCi/sec. With default wind speed (8 mph) and stability class (D), Standby Gas Treatment is not in the release path, the core is not degraded, secondary containment is not bypassed, the release is expected to last 4 hours, and the reactor not shutdown a TEDE dose > 1 REM is projected at or beyond 1 mile.

MEMO

If a release greater than license limits is under way, or suspected, and any dose assessment model or methodology indicates a Site Boundary TEDE dose of 1 rem or greater, classify and follow applicable procedures. This is the conservative response. Conservative is defined as that action which yields the greatest possible protection of the public from radiological consequences.

NUREG-0654 requires that a GENERAL EMERGENCY be declared when EPA Protective Action Guidelines are projected to be exceeded off-site.

Automatic MINIMUM Protective Action Recommendation (PAR) at a General Emergency is evacuation for 2 mile radius and 5 miles downwind in at least 3 sectors, the remainder of 10 mile Emergency Planning Zone should go indoors and monitor EAS/EBS.

REFERENCES

NUREG-0654: G.01

CLASSIFICATION **EAL: 1.4.2**

GENERAL EMERGENCY

TEXT

Radiological gaseous effluent releases resulting in Committed Effective Dose (CDE) (thyroid) dose at or beyond the Site Boundary of 5 REM.

APPLICABILITY

ALL

EXAMPLE

Turbine KAMAN reads 2.6 E+6 μCi/sec. The core has been uncovered (dose assessment question on core degraded = YES). With wind default wind speed (8 mph) and stability class (D), Standby Gas Treatment is not in the release path, secondary containment is bypassed, the reactor is not shutdown, and the release is expected to last 4 hours, a CDE dose at or beyond 1 mile is projected to be > 5 REM.

MEMO

If a release greater than license limits is under way, or suspected, and any dose assessment model or methodology indicates a Site Boundary CDE dose rate of 5 rem/hr or greater, classify and follow applicable procedures. This is the conservative response. Conservative is defined as that action which yields the greatest possible protection of the public from radiological consequences.

NUREG-0654 requires that a GENERAL EMERGENCY be declared when EPA Protective Action Guidelines are projected to be exceeded off-site.

Automatic MINIMUM Protective Action Recommendation (PAR) at a GENERAL EMERGENCY is evacuation for 2 mile radius and 5 miles downwind in at least 3 sectors, the remainder of 10 mile Emergency Planning Zone should go indoors and monitor EAS/EBS.

REFERENCES

NUREG-0654: G.01

CLASSIFICATION **EAL: 2.1.1**

NOUE

TEXT

Steam Jet Air Ejector radiation monitor reads > 1.5 E+3 mrem/hr or an increase of 3.0 E+2 mrem/hr within a 30 minute period.

APPLICABILITY

ALL

EXAMPLE

RM-150A reads > 1.5 E+3 mrem/hr.

MEMO

These numbers correspond to some fuel damage. They do not reflect a LOSS of the fuel cladding.

REFERENCES

NUREG-0654: N.03A

CLASSIFICATION **EAL: 2.1.2**

NOUE

TEXT

Coolant sample activity exceeds 4.0 μCi/gm DOSE EQUIVALENT I-131.

APPLICABILITY

ALL

EXAMPLE

Rx coolant sample results indicate 5.0 μCi/gm DOSE EQUIVALENT I-131.

MEMO

0.2 μCi/gm DOSE EQUIVALENT I-131 is the Tech Spec limit. The limit may be increased up to 4.0 μCi/gm DOSE EQUIVALENT I-131 or less for a maximum of 48 hours to allow a reasonable time for temporary coolant activity increases (iodine spikes or crud bursts) to be cleaned up with the normal processing systems. If at any time the DOSE EQUIVALENT I-131 > 4.0 μCi/gm DOSE EQUIVALENT I-131, it must be determined at least once every four (4) hours and all the main steam lines must be isolated with 12 hours. See LCO 3.4.6 for details.

REFERENCES

NUREG-0654: N.03B

Tech Spec 3.4.6

NOTE - For purposes of reactor coolant samples:

1 μCi/ml ~ 1μCi/cc ~ 1μCi/mg dose equivalent I-131

CLASSIFICATION **EAL: 2.1.3**

NOUE

TEXT

Operational RCS pressure boundary LEAKAGE; or unidentified LEAKAGE exceeds 5 gpm; or total LEAKAGE exceeds 30 gpm averaged over a previous 24 hour period; or unidentified LEAKAGE increase of more than 2 gpm within the previous 24 hour period in MODE 1.

APPLICABILITY

MODE 1, 2, or 3.

EXAMPLE

Sump integrators indicate leakage from the primary coolant boundary of 7 gpm unidentified.

MEMO

This leak rate constitutes entry into a LCO; however, this case will not wait for inability to meet associated action statement(s); therefore, declare a NOUE upon confirmation of the leak rate.

REFERENCES

NUREG-0654: N.05

CLASSIFICATION **EAL: 2.2.1**

ALERT

TEXT

Loss of Fuel Cladding or Primary Coolant Boundary fission product barriers (refer to Attachment 3 for indication).

APPLICABILITY

Per Technical Specifications

EXAMPLE

Reactor Recirculation pump seizure leading to fuel cladding failure.

PASS sample results show > 300 μCi/gm DOSE EQUIVALENT I-131.

OR

Loss of Coolant Accident.

MEMO

Refer to Attachment 3 for indications of lost fission product barriers to ensure that only one barrier is lost. Loss of two barriers is a SITE AREA EMERGENCY (EAL: 2.3.3), loss of two barriers with the potential loss of the third is a GENERAL EMERGENCY (EAL: 2.4.1).

This EAL does not apply to failures of safety relief valves to seat during low pressure testing.

REFERENCES

NUREG-0654: A.01
NUREG-0654: A.04
NUREG-0654: A.05
NUREG-0654: A.09
NUREG-0654: N.06

CLASSIFICATION **EAL: 2.3.1**

SITE AREA EMERGENCY

TEXT

Degraded core with a possible loss of coolable geometry as indicated by:

A.1 ≥ 20% gap activity as determined by Chemistry.

OR

A.2 Primary Containment radiation monitors read > 1.0 E+4 REM/hr.

AND

B.1 High core plate Dp for the corresponding core flow (see EAL: 2.3.1A).

OR

B.2 Inability to insert in-core detectors.

APPLICABILITY

ALL

EXAMPLE

Drywell radiation monitors read 2 E+4 REM/hr following a transient. Traversing In-Core Probes cannot be inserted by any machine into the reference channel.

MEMO

Could lead to further core degradation due to overheating.

Reference Dp vs. core flow chart, ... 2.3.1A (next page)

REFERENCES

NUREG-0654: S.02

EAL: 2.3.1A

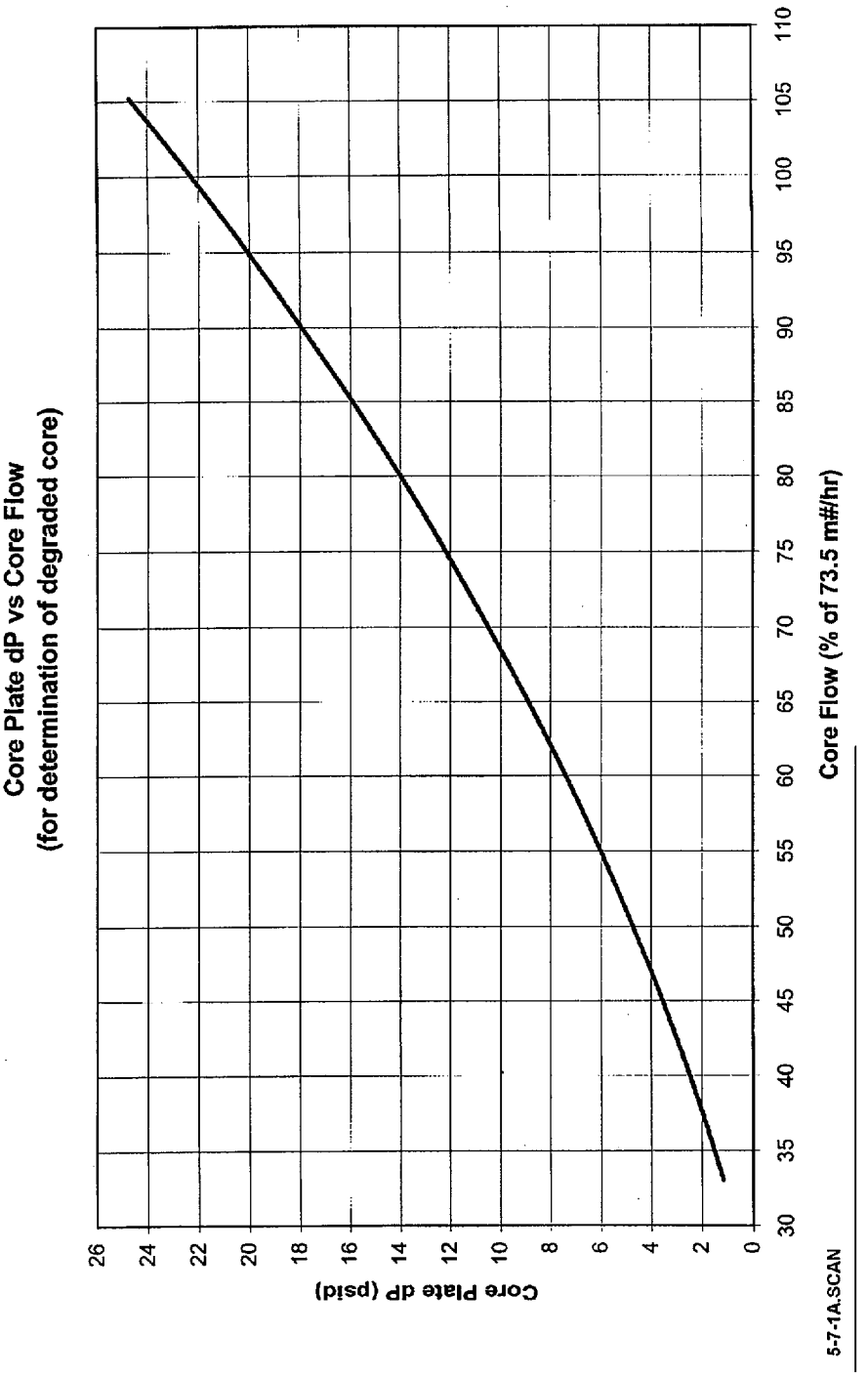

Figure 1

CLASSIFICATION **EAL: 2.3.2**

SITE AREA EMERGENCY

TEXT

Known loss of coolant accident greater than makeup capacity.

APPLICABILITY

ALL

EXAMPLE

LOCA greater than RCIC capacity with HPCI inop and inability to depressurize.

MEMO

This EAL is a combination of loss of one fission product barrier (RPV) and other major failures. It therefore meets the class description for SITE AREA EMERGENCY of NUREG-0654.

Follow Emergency Operating Procedures (EOPs). If all means to maintain level in the reactor fail, declare.

REFERENCES

NUREG-0654: S.01

CLASSIFICATION **EAL: 2.3.3**

SITE AREA EMERGENCY

TEXT

Loss of any TWO fission product barriers. The fission product barriers are defined as follows:

A. Fuel Cladding.

B. Primary Coolant Boundary.

C. Primary Containment.

APPLICABILITY

Per Technical Specifications.

EXAMPLE

Steam line break outside primary containment without isolation from the Control Room.

OR

100 gpm leak into Primary Containment following fuel failure (> 300 μCi/gm DOSE EQUIVALENT I-131).

OR

Primary Containment isolation failures allowing a direct flow path to the environment such as failures of both MSIVs to close with open valves downstream to the turbine or to the condenser.

MEMO

TWO, and only two, fission product barriers must meet the criteria for being considered lost. If there is only one barrier lost, see EAL: 2.2.1. If there is the potential for loss of the third barrier a GENERAL EMERGENCY shall be declared on EAL: 2.4.1.

See Attachment 3 for indications of loss or potential loss of fission product barriers.

REFERENCES

NUREG-0654: S.04

CLASSIFICATION **EAL: 2.4.1**

GENERAL EMERGENCY

TEXT

Loss of any TWO of THREE fission product barriers AND the potential exists for the loss of the THIRD. The fission product barriers are defined as follows:

A. Fuel Cladding.

B. Primary Coolant Boundary.

C. Primary Containment.

APPLICABILITY

Per Technical Specifications.

EXAMPLE

LOCA with core damage and drywell pressure is nearing design pressure, OR two MSIVs on the same steam line cannot be isolated from the Control Room and chemistry data trends indicate fuel cladding is deteriorating.

MEMO

Automatic MINIMUM Protective Action Recommendation (PAR) at a GENERAL EMERGENCY of evacuation for 2 mile radius and 5 miles downwind in at least 3 sectors, the remainder of 10 mile Emergency Planning Zone should go indoors and monitor EAS/EBS.

See Attachment 3 for indications of loss or potential loss of fission product barriers.

REFERENCES

NUREG-0654: G.02

NUREG-0654: G.06

CLASSIFICATION **EAL: 3.1.1**

NOUE

TEXT

Inability to meet the action statement associated with a Technical Specification Limiting Condition for Operation (LCO).

APPLICABILITY

Per Technical Specifications.

EXAMPLE

Following discovery that one of the 125 volt batteries is inoperable, the battery was not restored to OPERABLE status within 2 hours, nor was MODE 3 achieved within the following 12 hours.

MEMO

Declaration of **NOUE** is warranted by failure to meet the action statement of a Limiting Condition for Operation (LCO). This constitutes a condition outside that analyzed by Technical Specifications. The **NOUE** may not be terminated until the action statement has been met. This varies; reference the Tech Specs.

REFERENCES

NUREG-0654: N.08

NUREG-0654: N.09

NUREG-0654: N.15

CLASSIFICATION **EAL: 3.2.1**

ALERT

TEXT

Fuel handling accident on the refueling floor with release of radioactivity to secondary containment as indicated by HIGH alarm on refueling floor ARM #2, CAM, or Reactor Building ventilation monitor.

APPLICABILITY

ALL

EXAMPLE

Dropped fuel bundle, bubbles appear near the impact zone, ARM #2 alarms.

MEMO

For major damage, see EAL: 3.3.1.

REFERENCES

NUREG-0654: A.12

CLASSIFICATION **EAL: 3.2.2**

ALERT

TEXT

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

APPLICABILITY

ALL

EXAMPLE

Electrical fire in the Control Room causes evacuation. ASD accomplished.

MEMO

Do not delay alternate shutdown. Declare ALERT and note time. Make required notifications as soon as possible. If control of shutdown systems cannot be accomplished within 15 minutes, EAL: 3.3.2 applies.

This EAL does not say that all actions associated with ASD shall be completed in order to avoid the higher EAL pertaining to Control Room evacuation (EAL: 3.3.2). If the reactor successfully scrams, level and pressure are being controlled, and no impediments to the associated ASD activities are being encountered, this emergency classification is appropriate. If impediments are being encountered in completing critical ASD functions and more than 15 minutes expire, EAL: 3.3.2 is met.

REFERENCES

NUREG-0654: A.20

CLASSIFICATION **EAL: 3.2.3**

ALERT

TEXT

Complete loss of all capability to place or maintain the plant in MODE 4 or MODE 5.

APPLICABILITY

Irradiated fuel in the vessel.

EXAMPLE

Loss of both LPCI Subsystems following a scram from startup.

MEMO

Loss of MODE 4 capability while at power would be adequately covered by Tech Specs, but does not warrant an ALERT.

Follow appropriate procedures. Attempt alternate means of cooling if required. If all means to place or maintain the reactor < 212°F fail, declare. Monitor plant for indications of other EAL thresholds.

REFERENCES

NUREG-0654: A.10

CLASSIFICATION **EAL: 3.2.4**

ALERT

TEXT

Failure of Reactor Protection System (RPS) to initiate and complete a scram which brings the reactor subcritical.

APPLICABILITY

Reactor critical.

EXAMPLE

RPS initiated scram with half the control rods not full in (hydraulic lock caused by an undrained scram discharge volume). Continued power generation.

MEMO

A failure of RPS in this EAL is a failure of either the automatic trip systems or the manual scram pushbuttons to initiate and complete a scram which brings the reactor subcritical. If ARI also fails, see EAL 3.3.4. Subcritical is defined as all but one rod full-in, all rods inserted to or beyond Position 02, OR a qualified Reactor Engineer has determined reactor will remain subcritical under all conditions without boron injection.

REFERENCES

NUREG-0654: A.11

CLASSIFICATION **EAL: 3.3.1**

SITE AREA EMERGENCY

TEXT

Major damage to irradiated fuel or fuel pool water level below the top of the spent fuel.

APPLICABILITY

ALL

EXAMPLE

Shipping cask head dropped on spent fuel. Several fuel bundles prepared for shipment (de-channeled) are crushed.

MEMO

Major fuel damage is defined as "affecting more than ten irradiated fuel bundles". It is anticipated that no fuel handling accident associated with normal fuel handling could cause this EAL to be met. Only large objects (such as fuel shipping casks) dropped on fuel, or uncovery of the fuel could meet this EAL.

REFERENCES

NUREG-0654: S.10

CLASSIFICATION

EAL: 3.3.2

SITE AREA EMERGENCY

TEXT

Evacuation of the Control Room accompanied by the inability to locally control shutdown systems within 15 minutes.

APPLICABILITY

ALL

EXAMPLE

Electrical fire in the control room causes evacuation. Shutdown systems are not responding properly from the ASD panel.

MEMO

An ALERT should have been declared on EAL: 3.2.1 upon evacuation of the Control Room. When local control cannot be achieved in 15 minutes, a SITE AREA EMERGENCY shall be declared.

REFERENCES

NUREG-0654: S.18

CLASSIFICATION **EAL: 3.3.3**

SITE AREA EMERGENCY

TEXT

Complete loss of all available means to place or maintain the plant in MODE 3.

APPLICABILITY

MODE 1, 2, or 3.

EXAMPLE

Shutdown margin cannot be maintained.

MEMO

Could lead to fuel cladding failure.

Carefully monitor plant parameters for indications of fission product barrier loss. Attempt alternate means of heat removal. If all means of heat removal fail, declare. Escalation of this EAL to a General Emergency is based on actual or imminent substantial core degradation or melting with potential for loss of primary containment.

REFERENCES

NUREG-0654: S.08

CLASSIFICATION **EAL: 3.3.4**

SITE AREA EMERGENCY

TEXT

Failure of the Reactor Protection System (RPS), including Alternate Rod Insertion (ARI), to bring the reactor subcritical.

APPLICABILITY

Reactor critical.

EXAMPLE

Low reactor water level scram with hydraulic lock on all the north HCUs. Half the rods remain un-inserted. Continued power generation.

MEMO

If any scram signal and initiation of ARI fails to bring the reactor subcritical, a SITE AREA EMERGENCY based on this EAL exists.

Subcritical is defined as all but one rod full-in, all rods inserted to or beyond Position 02, OR a qualified Reactor Engineer has determined reactor will remain subcritical under all conditions without boron injection.

Escalation of this EAL to a GENERAL EMERGENCY is based on actual or imminent substantial core damage or melting with potential for loss of primary containment.

REFERENCES

NUREG-0654: Appendix 1, SITE AREA EMERGENCY, Step 9.

CLASSIFICATION **EAL: 3.4.1**

GENERAL EMERGENCY

TEXT

Failure of the Reactor Protection System (RPS) or alternate rod insertion or SLC to bring the reactor subcritical which could result in a core meltdown with subsequent containment failure likely.

APPLICABILITY

Reactor critical.

EXAMPLE

All methods to shut down the reactor fail.

MEMO

Subcritical is defined as all but one rod full-in, all rods inserted to or beyond Position 02, OR a qualified Reactor Engineer has determined reactor will remain subcritical under all conditions without boron injection or cold shutdown boron per EOPs cannot be injected. All methods to shut down the reactor have failed. If heat sink is lost fuel will eventually be degraded or melt. Loss of heat sink will also degrade the Primary Containment integrity.

Automatic MINIMUM Protective Action Recommendation (PAR) at a GENERAL EMERGENCY of evacuation for 2 mile radius and 5 miles downwind in at least 3 sectors, the remainder of 10 mile Emergency Planning Zone should go indoors and monitor EAS/EBS.

REFERENCES

NUREG-0654: G.06A

CLASSIFICATION **EAL: 3.4.2**

GENERAL EMERGENCY

TEXT

Other plant conditions exist, from whatever source, which make a release of large amounts of radioactivity in a short time period possible (e.g., any core melt situation).

APPLICABILITY

ALL

EXAMPLE

Event in progress or which has occurred, that involves actual or imminent substantial core degradation or melting with the potential for the loss of Primary Containment integrity.

MEMO

Attempt to classify under more specific EALs. If none apply and the potential for large releases or core melt exists, declare.

Automatic MINIMUM Protective Action Recommendation (PAR) at a GENERAL EMERGENCY of evacuation for 2 mile radius and 5 miles downwind in at least 3 sectors, the remainder of 10 mile Emergency Planning Zone should go indoors and monitor EAS/EBS.

REFERENCES

NUREG-0654: G.04

NUREG-0654: G.06

CLASSIFICATION **EAL: 4.1.1**

NOUE

TEXT

Loss of ALL off-site power sources to vital busses "F" and "G" for > 15 minutes.

APPLICABILITY

ALL

EXAMPLE

Tornado drops all lines feeding the plant. Diesel generators start and load properly.

Lightning strike results in loss of SSST with degraded voltage on the ESST (1FS/1GS autoclosure not permitted) for > 15 minutes.

MEMO

The NSST should not be considered a source of off-site power.

The SSST must be supplied by T2 to be considered a source of off-site power.

REFERENCES

NUREG-0654: N.07

CLASSIFICATION **EAL: 4.1.2**

NOUE

TEXT

Unplanned loss of most or all safety system annunciators.

APPLICABILITY

Reactor critical.

EXAMPLE

Complete failure of all annunciators while at power.

MEMO

If a transient is also in progress, see EAL: 4.2.3.

REFERENCES

NUREG-0654: A.14

CLASSIFICATION **EAL: 4.2.1**

ALERT

TEXT

Loss of all AC power (on and off-site sources) to vital Busses "F" and "G" during MODE 4 or 5.

APPLICABILITY

MODE 4 or 5.

EXAMPLE

Loss of all off-site AC power while in MODE 4 or 5. DGs fail to start.

MEMO

Being in MODE 4 or 5, reduces the risk for core damage or other fission product barrier challenge caused by the loss of power.

See EAL: 4.3.1 for loss of power when the reactor is hot.

REFERENCES

NUREG-0654: A.07

CLASSIFICATION **EAL: 4.2.2**

ALERT

TEXT

Loss of all DC power sources resulting in loss of all ECCS capability for < 15 minutes.

APPLICABILITY

ALL

EXAMPLE

Loss of all DC buses for 5 minutes.

MEMO

The initiating condition for extended loss of DC references "vital" DC. CNS interprets this to refer to 125 and 250 VDC, as only these DC sources power and/or control ECCS Systems.

See EAL: 4.3.2 for extended loss.

REFERENCES

NUREG-0654: A.08

CLASSIFICATION **EAL: 4.2.3**

ALERT

TEXT

Unplanned loss of most or all safety system annunciators with a transient in progress.

APPLICABILITY

Reactor critical.

EXAMPLE

Complete failure of all safety system annunciators while at power and a transient is in progress.

MEMO

Similar to EAL: 4.1.2 except this EAL includes a transient in progress.

The USAR definition of "transient" is an abnormal operational transient includes the events following a single equipment malfunction or a single operator error that is reasonable expected during the course of planned operations. Power failures, pump trips, and rod withdrawal errors are typical of the single malfunctions or errors initiating the events in this category.

Loss of all annunciators in the Control Room would also likely be classifiable under an EAL for loss of DC.

REFERENCES

NUMARC/NESP-007: SA4

CLASSIFICATION **EAL: 4.3.1**

SITE AREA EMERGENCY

TEXT

Loss of all AC power (on and off-site sources) for more than 15 minutes with the Reactor in MODE 1, 2, or 3.

APPLICABILITY

MODE 1, 2, or 3.

EXAMPLE

Tornado drops all lines feeding the plant while at power. Both diesel generators fail to start and cannot be started within 15 minutes (i.e., Station Blackout > 15 minutes).

MEMO

Either RCIC or HPCI, are capable of injecting water to the vessel independent of AC power. Loss of all other means to inject water to the vessel for an extended period of time meets the class description for SITE AREA EMERGENCY listed in NUREG-0654.

REFERENCES

NUREG-0654: S.06

CLASSIFICATION **EAL: 4.3.2**

SITE AREA EMERGENCY

TEXT

Loss of all DC power sources required for ECCS operation for more than 15 minutes.

APPLICABILITY

ALL

EXAMPLE

Loss of all DC buses for 25 minutes.

MEMO

Loss of various DC sources not only causes loss of DC powered equipment, but also the loss of indicators and/or controls for steam driven pumps. AC from inverters could also be lost.

REFERENCES

NUREG-0654: S.07

CLASSIFICATION **EAL: 4.3.3**

SITE AREA EMERGENCY

TEXT

Inability to monitor a significant transient in progress.

APPLICABILITY

ALL

EXAMPLE

Complete failure of all annunciators while at power, a significant transient in progress, and inability to monitor key parameters via other instrumentation.

MEMO

Similar to EAL: 4.2.3 except this EAL includes the inability to monitor the transient using redundant instrumentation.

A significant transient includes responses to automatic or manually initiated functions, such as; scrams, runbacks involving > 25% thermal power changes, ECCS injections, or thermal power oscillations of 10% or greater.

REFERENCES

NUMARC/NESP-007: SS6

CLASSIFICATION **EAL: 4.4.1**

GENERAL EMERGENCY

TEXT

Total loss of all AC power (on and off-site sources) with the inability to keep the core covered.

APPLICABILITY

ALL

EXAMPLE

HPCI and RCIC fail during a station blackout. Level drops below 0" (FZ).

MEMO

Failure to keep the core covered combined with a loss of all AC indicates failure of steam driven pumps. Without cooling the core will degrade, Primary Containment could heat up and potentially fail.

Automatic MINIMUM Protective Action Recommendation (PAR) at a GENERAL EMERGENCY of evacuation for 2 mile radius and 5 miles downwind in at least 3 sectors, the remainder of 10 mile Emergency Planning Zone should go indoors and monitor EAS/EBS.

REFERENCES

NUREG-0654: G.06A

CLASSIFICATION **EAL: 5.1.1**

NOUE

TEXT

Any fire within the Protected Area which takes longer than 10 minutes to extinguish.

APPLICABILITY

ALL

EXAMPLE

Fire brigade is unable to extinguish a fire in the turbine lube oil reservoir room within 10 minutes from receipt of report or alarm in the Control Room.

MEMO

Time is measured from the time the report or alarm of a fire is received in the Control Room.

REFERENCES

NUREG-0654: N.10

Meacham to ERO, "Clarification of Certain Emergency Action Levels (EALs)", CNSS900421 August 7, 1990.

Telecon Krumland/Hayden to Spitzberg (NRC IV), "EAL Interim Guidance - Memo", August 22, 1990.

CLASSIFICATION **EAL: 5.1.2**

NOUE

TEXT

Report or detection of toxic or flammable gases that could enter the Protected Area in amounts that will affect the health of plant personnel or can effect normal operation of the plant.

APPLICABILITY

ALL

EXAMPLE

Bulk hydrogen delivery truck regulator fitting is broken during unloading and cannot be isolated.

MEMO

Certain spills or releases may require notification of EPA or other agencies.

REFERENCES

NUREG-0654: N.14D

CLASSIFICATION **EAL: 5.2.1**

ALERT

TEXT

A fire with a potential to cause degradation of a plant safety system required to be OPERABLE.

APPLICABILITY

ALL

EXAMPLE

A fire in NE Reactor Building 903' during Power operations with the potential to damage cables.

MEMO

This EAL is intended to apply to a fire which could directly affect any (one or more) plant safety system(s). Implicit in this interpretation is that plant conditions are such that the potentially affected safety system should be OPERABLE. For example, during MODE 4 or 5, HPCI is not required to be OPERABLE. Therefore, a fire in the HPCI Room would not necessarily threaten a required safety system. A large fire in the same area, however, that constituted a threat to the "B" and "D" RHR Pumps would meet the threshold for this EAL.

The threshold of the EAL would also be met if, while at power, a fire occurred in the HPCI Room which threatened the OPERABILITY of the system. This is true even if HPCI was inoperable at the time (under the required Technical Specification LCO), since HPCI should be OPERABLE while at power.

On the other hand, a small fire (e.g., a smoldering rag or burning piece of paper), which does not constitute a threat to a safety system, does not meet the intent of this EAL.

REFERENCES

NUREG-0654: A.13

Meacham to ERO, "Clarification of Certain Emergency Action Levels (EALs)", CNSS900421, August 7, 1990.

CLASSIFICATION **EAL: 5.2.2**

ALERT

TEXT

Report or detection of toxic or flammable gases within a Vital Area in concentrations that will be life threatening to plant personnel or will affect the safe operation of the plant.

APPLICABILITY

ALL

EXAMPLE

CO_2 pre-discharge alarm on DG Room #1 received. Personnel evacuate room out different doors. Upon exit, all personnel cannot be accounted for.

MEMO

To meet the class description for an ALERT, the condition must indicate an actual or potential substantial degradation of the level of safety of the plant (NUREG-0654, Appendix 1) or be life threatening to personnel.

If personnel are not in the affected area nor required to enter, or must remain in the affected area but have adequate protection (to safely operate or shutdown the plant), this EAL is not met.

REFERENCES

NUREG-0654: A.18D

CLASSIFICATION **EAL: 5.3.1**

SITE AREA EMERGENCY

TEXT

Fire compromising the functions of safety systems.

APPLICABILITY

ALL

EXAMPLE

A fire in the Cable Spreading Room affecting the function of HPCI while required to be OPERABLE.

MEMO

This EAL applies to a fire which compromises the active function (e.g., low pressure injection or automatic depressurization) of a safety system or multiple safety systems.

In reviewing EAL: 5.2.1 and 5.3.1, it is important to note that EAL: 5.2.1 covers the potential for degradation of nuclear safety, while EAL: 5.3.1 is recognition that an actual degradation has occurred. Additionally, the statements made regarding system OPERABILITY for EAL: 5.2.1 also apply to EAL: 5.3.1.

This EAL is intended to apply to a fire which could directly affect any (one or more) plant safety system(s). Implicit in this interpretation is that plant conditions are such that the potentially affected safety system should be OPERABLE. For example, during MODE 4 or 5, HPCI is not required to be OPERABLE. Therefore, a fire in the HPCI Room would not necessarily threaten a required safety system. A large fire in the same area, however, that constituted a threat to the "B" and "D" RHR pumps would meet the threshold for this EAL.

REFERENCES

NUREG-0654: S.11

Meacham to ERO, "Clarification of Certain Emergency Action Levels (EALs)", CNSS900421, August 7, 1990.

CLASSIFICATION **EAL: 5.4.1**

GENERAL EMERGENCY

TEXT

Any major internal or external fire substantially beyond the design basis which could cause massive common damage to plant systems.

APPLICABILITY

ALL

EXAMPLE

A fire in Critical Switchgear Rooms, where both rooms are involved, result in loss of CS, RHR, SW, etc.

MEMO

Automatic MINIMUM Protective Action Recommendation (PAR) at a GENERAL EMERGENCY is evacuation for 2 mile radius and 5 miles downwind in at least 3 sectors, the remainder of 10 mile Emergency Planning Zone should go indoors and monitor EAS/EBS.

REFERENCES

NUREG-0654: G.07

CLASSIFICATION **EAL: 6.1.1**

NOUE

TEXT

Security threat, attempted entry, or attempted sabotage.

APPLICABILITY

ALL

EXAMPLE

A credible bomb threat.

MEMO

As determined by the Security Contingency Plan or procedures.

REFERENCES

NUREG-0654: N.12

CLASSIFICATION **EAL: 6.2.1**

ALERT

TEXT

On-going security compromise.

APPLICABILITY

ALL

EXAMPLE

Armed intruders within the Protected Area.

MEMO

As determined by the Security Contingency Plan or procedures.

REFERENCES

NUREG-0654: A.16

CLASSIFICATION **EAL: 6.3.1**

SITE AREA EMERGENCY

TEXT

Imminent loss of physical control of the station.

APPLICABILITY

ALL

EXAMPLE

Large number of armed intruders in the station.

MEMO

None.

REFERENCES

NUREG-0654: S.14

CLASSIFICATION **EAL: 6.4.1**

GENERAL EMERGENCY

TEXT

Loss of physical control of the station.

APPLICABILITY

ALL

EXAMPLE

Armed intruder(s) in the Control Room.

MEMO

Automatic MINIMUM Protective Action Recommendation (PAR) at a GENERAL EMERGENCY is evacuation for 2 mile radius and 5 miles downwind in at least 3 sectors, the remainder of 10 mile Emergency Planning Zone go remain indoors and monitor EAS/EBS.

REFERENCES

NUREG-0654: G.03

CLASSIFICATION **EAL: 7.1.1**

NOUE

TEXT

Ground motion > 0.01g as indicated by Control Room seismic monitoring panel.

APPLICABILITY

ALL

EXAMPLE

Minor tremor.

MEMO

Attempt to rule out "false" causes for alarm (i.e., heavy equipment operation).

REFERENCES

NUREG-0654: N.13A

CLASSIFICATION **EAL: 7.1.2**

NOUE

TEXT

River level > 899' or < 867'.

APPLICABILITY

ALL

EXAMPLE

Flood, river level 900' MSL.

MEMO

Flood of record per USAR is 900.8'.

REFERENCES

NUREG-0654: N.13B

CLASSIFICATION **EAL: 7.1.3**

NOUE

TEXT

Tornado touching down within the Owner Controlled Area.

APPLICABILITY

ALL

EXAMPLE

Tornado striking north Training Building.

MEMO

Consider performing assembly and accountability after danger has passed. If tornado touches down within the Protected Area, see EAL: 7.2.3.

REFERENCES

NUREG-0654: N.13C

CLASSIFICATION **EAL: 7.1.4**

NOUE

TEXT

Sustained wind speed > 74 mph.

APPLICABILITY

ALL

EXAMPLE

Severe sustained winds from a thunderstorm. MET indicates sustained winds of 80 mph.

MEMO

CNS' version of "hurricane" listed in NUREG-0654 initiating condition.

These are sustained winds, not gusts.

REFERENCES

NUREG-0654: N.13D

CLASSIFICATION **EAL: 7.2.1**

ALERT

TEXT

Ground motion > 0.1g as indicated by Control Room seismic monitoring panel.

APPLICABILITY

ALL

EXAMPLE

Earthquake.

MEMO

This EAL is the Operating Basis Earthquake (OBE) for CNS per the USAR.

Check the plant for damage. If major damage is evident, see EAL: 7.3.1.

REFERENCES

NUREG-0654: A.17A

CLASSIFICATION **EAL: 7.2.2**

ALERT

TEXT

River level > 902' or < 865'.

APPLICABILITY

ALL

EXAMPLE

Ice jam upstream causes river level to drop below 865'.

MEMO

These levels equate to "near design levels" specified in NUREG-0654 initiating condition. This could result in "potential substantial degradation" to safety systems as found in the ALERT class description of NUREG-0654.

REFERENCES

NUREG-0654: A.17B

CLASSIFICATION **EAL: 7.2.3**

ALERT

TEXT

Tornado touching down within the Protected Area.

APPLICABILITY

ALL

EXAMPLE

Tornado striking Security, Craft Change, and the NRC/Ambulance Buildings.

MEMO

Ensure tornado has passed before conducting assembly and accountability.

REFERENCES

NUREG-0654: A.17C

CLASSIFICATION **EAL: 7.2.4**

ALERT

TEXT

Sustained wind speed > 95 mph.

APPLICABILITY

ALL

EXAMPLE

MET indicates sustained winds of 96 mph.

MEMO

Equates to "hurricane winds beyond design basis level" specified in NUREG-0654 initiating condition.

These are sustained winds, not gusts.

REFERENCES

NUREG-0654: A.17D

CLASSIFICATION **EAL: 7.3.1**

SITE AREA EMERGENCY

TEXT

Ground motion > 0.1g as indicated on the Control Room seismic monitoring panel AND reports of major plant damage.

APPLICABILITY

MODE 1, 2, or 3.

EXAMPLE

Visible crack on Drywell following an earthquake.

MEMO

This EAL represents the Safe Shutdown Earthquake (SSE) from the USAR. The SSE for CNS is 0.2g. CNS has no active instrumentation beyond 0.1g. The SSE level will be assumed to have been reached if the 0.1g annunciator is received combined with reports of major plant damage, until the seismic monitor tapes have been read. The seismic monitor tapes will record up to 1.0G. See Procedure 4.12.

Obtain a hard copy of the event data from seismic instrumentation tapes per Procedure 4.1.2. The seismic tapes will read up to 1G.

Peak acceleration recorders (scratch pens) should be retrieved for analysis.

REFERENCES

NUREG-0654: S.15A

CLASSIFICATION **EAL: 7.3.2**

SITE AREA EMERGENCY

TEXT

Sustained wind speed > 100 mph.

APPLICABILITY

MODE 1, 2, or 3.

EXAMPLE

Sustained MET indicates wind speed of 100 mph.

MEMO

This is a sustained wind speed, not gusts.

CNS instrumentation only goes to 100 mph, not beyond.

REFERENCES

NUREG-0654: S.15C

CLASSIFICATION **EAL: 7.3.3**

SITE AREA EMERGENCY

TEXT

Flood which renders multiple ECCS Systems inoperable when they are required to be OPERABLE.

APPLICABILITY

MODE 1, 2, or 3.

EXAMPLE

HPCI quad flooded (affecting HPCI and RHR function).

MEMO

The SITE AREA EMERGENCY class description refers to plant functions needed to protect the public. If systems were impacted, but not needed, CNS would maintain the ALERT.

REFERENCES

NUREG-0654: S.15B

CLASSIFICATION **EAL: 7.3.4**

SITE AREA EMERGENCY

TEXT

Low river level which results in complete loss of the Service Water System.

APPLICABILITY

All

EXAMPLE

SWPs cavitate due to low river level.

MEMO

Service water is always needed as the ultimate heat sink for the plant. Its loss meets the class description for SITE AREA EMERGENCY found in NUREG-0654.

Follow the procedures for maximizing water level in E Bay. This EAL is complete loss. Service Water operation which does not meet Tech Specs, but provides some cooling should be classified as an ALERT on EAL: 7.2.2.

REFERENCES

NUREG-0654: S.15B

CLASSIFICATION **EAL: 7.4.1**

GENERAL EMERGENCY

TEXT

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

APPLICABILITY

ALL

EXAMPLE

Earthquake which causes immediate, massive, and obvious damage to many plant systems.

MEMO

Automatic MINIMUM Protective Action Recommendation (PAR) at a GENERAL EMERGENCY is evacuation for 2 mile radius and 5 miles downwind in at least 3 sectors, the remainder of 10 mile Emergency Planning Zone should go indoors and monitor EAS/EBS.

REFERENCES

NUREG-0654: G.07

CLASSIFICATION **EAL: 8.1.1**

NOUE

TEXT

Aircraft crash within the Protected Area.

APPLICABILITY

ALL

EXAMPLE

Small aircraft crashes within the Protected Area, but does not strike any structures.

MEMO

An airplane crash must be within the Protected Area to meet the NOUE classification description of NUREG-0654.

REFERENCES

NUREG-0654: N.14A

CLASSIFICATION

EAL: 8.1.2

NOUE

TEXT

Explosion within the Protected Area.

APPLICABILITY

ALL

EXAMPLE

Gasoline storage tank explodes.

MEMO

An explosion includes all sudden, violent, and rapid releases of energy. "Detonation" and "Deflagration" are releases of chemical energy which qualify as "Explosions". Also included is the rapid release of mechanical energy, i.e., pressure.

The source or location of the explosion must be within the Protected Area to meet the NOUE class description of NUREG-0654. An explosion on the Owner Controlled Area (OCA) does not meet the NOUE class description of NUREG-0654.

The rapid release of mechanical energy may result in the generation of a missile (see EAL: 8.2.2).

REFERENCES

NUREG-0654: N.14C

CLASSIFICATION **EAL: 8.1.3**

NOUE

TEXT

Failure of a turbine rotating component causing an automatic reactor scram with release of radioactivity to the Turbine Building or which potentially affects safety systems.

APPLICABILITY

ALL

EXAMPLE

Low pressure rotor fails. Radioactivity is released to the Turbine Building prior to MSIV closure.

MEMO

A reactor scram (from whatever cause) does not meet the **NOUE** class description unless there is an associated release of radioactivity or safety systems are potentially affected.

If the radiological release is considered to be serious or safety systems are actually degraded, see EAL: 8.2.4.

REFERENCES

NUREG-0654: N.14E

CLASSIFICATION **EAL: 8.1.4**

NOUE

TEXT

Other conditions existing which in the judgement of the Emergency Director warrant declaration of an Unusual Event.

APPLICABILITY

ALL

EXAMPLE

Event in progress or which has occurred, that indicate a potential degradation of the level of safety of the station. The event may progress to a more severe emergency classification if it is not mitigated.

MEMO

For events of minor safety significance, but which warrant notification of authorities. Attempt to classify under more specific EALs. If none apply, declare under this one.

REFERENCES

NUREG-0654: N.15

CLASSIFICATION **EAL: 8.2.1**

ALERT

TEXT

Aircraft striking structures within the Protected Area.

APPLICABILITY

ALL

EXAMPLE

Aircraft striking the Elevated Release Point (ERP).

MEMO

None.

REFERENCES

NUREG-0654: A.18A

CLASSIFICATION **EAL: 8.2.2**

ALERT

TEXT

Missile impact, from whatever source, within the Protected Area.

APPLICABILITY

ALL

EXAMPLE

Helicopter drops unknown objects onto the Turbine Building roof.

MEMO

"Missile" is not defined by NUREG-0654. It is assumed that any large projectile is a missile.

REFERENCES

NUREG-0654: A.18B

CLASSIFICATION **EAL: 8.2.3**

ALERT

TEXT

Known explosion damage to the facility affecting plant operation.

APPLICABILITY

ALL

EXAMPLE

Hydrogen explosion in hydrogen seal oil pump (Iron Horse) room causing turbine trip.

MEMO

An explosion includes all sudden, violent, and rapid releases of energy. "Detonation" and "Deflagration" are releases of chemical energy which qualify as "Explosions". Also included is the rapid release of mechanical energy, i.e., pressure.

The rapid release of mechanical energy may result in the generation of a missile (see EAL: 8.2.2).

An explosion affecting operation could also have caused damage not yet discovered which could be of safety significance.

REFERENCES

NUREG-0654: A.18C

CLASSIFICATION **EAL: 8.2.4**

ALERT

TEXT

Turbine failure causing casing penetration which creates serious radiological concerns or damages plant safety systems.

APPLICABILITY

ALL

EXAMPLE

Portion of the turbine rotor penetrates casing. Other failures result in serious radiological concerns.

MEMO

Extension of EAL: 8.1.4. Turbine casing penetration alone does not meet the ALERT class description of NUREG-0654.

Serious radiological concerns would also likely be classifiable under other EALs.

REFERENCES

NUREG-0654: A.18E

CLASSIFICATION **EAL: 8.2.5**

ALERT

TEXT

Other conditions existing which in the judgement of the Emergency Director warrant declaration of an ALERT.

APPLICABILITY

ALL

EXAMPLE

An event in progress, or which has occurred, that involved an actual or potentially substantial degradation of the safety level of the station. Minor releases of radioactivity may occur or may have occurred.

MEMO

Attempt to classify under other more specific EALs. If none apply, declare on this one.

REFERENCES

NUREG-0654: A.19

CLASSIFICATION **EAL: 8.3.1**

SITE AREA EMERGENCY

TEXT

Aircraft crash affecting vital areas with the plant in MODE 1, 2, or 3.

APPLICABILITY

MODE 1, 2, or 3.

EXAMPLE

Airplane crash into 1001' (Reactor Building 5th floor) while at power.

MEMO

None.

REFERENCES

NUREG-0654: S.16A

CLASSIFICATION **EAL: 8.3.2**

SITE AREA EMERGENCY

TEXT

Missile or explosion damage to safe shutdown equipment with the plant in MODE 1, 2, or 3.

APPLICABILITY

MODE 1, 2, or 3.

EXAMPLE

A high pressure nitrogen cylinder is dropped and its valve assembly is sheared off, it becomes a "missile" damaging several HCUs.

MEMO

An explosion includes all sudden, violent, and rapid releases of energy. "Detonation" and "Deflagration" are releases of chemical energy which qualify as "Explosions". Also included is the rapid release of mechanical energy, i.e., pressure.

The rapid release of mechanical energy may result in the generation of a missile (see EAL: 8.2.2).

REFERENCES

NUREG-0654: S.16B

CLASSIFICATION **EAL: 8.3.3**

SITE AREA EMERGENCY

TEXT

Other conditions existing which in the judgement of the Emergency Director warrant declaration of a SITE AREA EMERGENCY.

APPLICABILITY

ALL

EXAMPLE

Events in progress or have occurred, which involve actual or potential major failure of plant functions needed for the protection of the public.

MEMO

Attempt to classify under other more specific EALs. If none apply and there is actual or likely major failures of plant equipment needed for the protection of the public, declare on this one.

REFERENCES

NUREG-0654: S.17

CLASSIFICATION **EAL: 8.4.1**

GENERAL EMERGENCY

TEXT

Other conditions existing which in the judgement of the Emergency Director warrant declaration of a General Emergency (i.e., any core melt situation).

APPLICABILITY

ALL

EXAMPLE

Event in progress or which has occurred, that involves actual or imminent substantial core degradation or melting with a potential for the loss of Primary Containment integrity.

MEMO

Attempt to classify on other more specific EALs. If none apply and there is the possibility of release of large quantities of radioactive material in a short period of time, declare under this one.

Automatic MINIMUM Protective Action Recommendation (PAR) at a GENERAL EMERGENCY is evacuation for 2 mile radius and 5 miles downwind in at least 3 sectors, the remainder of 10 mile Emergency Planning Zone should go indoors and monitor EAS/EBS.

REFERENCES

NUREG-0654: G.07

BARRIER	POTENTIAL LOSS (1)	LOSS (2)
Fuel Cladding	1. 1500 mrem/hr on SJAE monitor (RM-150A,B) [EAL: 2.1.1]. 2. Main steam line radiation monitor ≥ 1200 mrem/hr. 3. Drywell Radiation Monitor > 250 REM/hr only valid under LOCA conditions. 4. Coolant sample activity > 4.0 μCi/gm DOSE EQUIVALENT I-131 [EAL: 2.1.2].	1. 15,000 mrem/hr on SJAE monitor (RM-150A,B). 2. Reactor Coolant sample > 300 μCi/gm DOSE EQUIVALENT I-131. 3. Drywell Radiation Monitor > 2500 REM/hr only valid under LOCA conditions. 4. Reactor water level below 0" (FZ).
Primary Coolant Boundary	1. Operational RCS pressure boundary LEAKAGE; or unidentified LEAKAGE exceeds 5 gpm; or total LEAKAGE exceeds 30 gpm averaged over a previous 24 hour period; or unidentified LEAKAGE increase of more than 2 gpm within the previous 24 hour period in MODE 1.	1. Reactor water cannot be maintained above 0" (FZ). 2. Drywell pressure > 2 psig with Primary Containment cooling operating. 3. Primary coolant leak > 50 gpm. 4. Safety or Relief valve stuck open after mechanical lift.
Primary Containment OPERABILITY	1. Primary Containment pressure > 25 psig and increasing. 2. Loss of all cooling capabilities. 3. Hydrogen concentration > 4%. 4. Unexplained drop in Drywell pressure or rise in nitrogen makeup.	1. Inability to isolate primary containment. 2. Loss of Primary Containment structural integrity. 3. Drywell pressure ≥ 56 psig. 4. Hydrogen concentration > 15%.

(1) Applies to classification only when combined with two actual losses, or if a separate EAL is indicated by a bracketed [ ] EAL #.

(2) Single fission product barrier loss (Fuel Cladding or Primary Coolant Boundary) is an ALERT, loss of two barriers (any two) is a SITE AREA EMERGENCY, loss of two barriers with potential for loss of the third barrier is a GENERAL EMERGENCY.

NOTE 1 - An emergency class may be declared on a potential loss or on an actual loss, but equating multiple potential losses to an actual loss is not acceptable. That is, two potential losses do not equal one actual loss. Only when a potential loss is combined with the actual loss of two barriers does the potential loss of the barrier change an emergency classification (i.e., from a SITE AREA EMERGENCY to a GENERAL EMERGENCY).

NOTE 2 - Paragraph numbers below correspond to those in the table on the previous page.

FUEL CLADDING - POTENTIAL LOSS

1. The number for SJAE (1500 mrem/hr) is obtained by calculating backwards through Attachment 1 of Procedure 5.7.16 assuming a combined SJAE flow of 100 cfm.

   It should be noted that 1500 mrem/hr at the SJAE is very unlikely and could occur only with a failure to isolate main steam. Therefore, an indication of fuel damage will likely be seen first by MSL radiation monitors.

2. The main steam line monitor value (1200 mrem/hr) is an approximation of the lowest setpoint for the 3 x NORMAL 100% power alarm. This setpoint (according to I&C Calibration Procedure) is calculated such that the alarm point would be reached by the fission products released by a design basis rod drop accident.

3. Derived from Attachment 7 of Procedure 5.7.17. This attachment in turn comes from NEDO 22215. This value (250 REM/hr) approximates 0.1% fuel cladding failure. At this level, the "core degraded?" question in the dose assessment models will be answered NO.

4. From NUREG-0654 Initiating Condition Appendix 1, Notification of Unusual Event, Step 3.b, Required Reactor Water Coolant Analysis.

FUEL CLADDING - LOSS

1. The number for SJAE (15,000 mrem/hr) is obtained by calculating backwards through Attachment 1 of Procedure 5.7.16 assuming a combined SJAE flow of 100 cfm. This yields an approximate curie-content of 600,000 μCi/sec.

   It should be noted that 15000 mrem/hr at the SJAE is very unlikely, and could occur only with a failure to isolate main steam. Therefore, an indication of fuel damage will likely be seen first by MSL radiation monitors.

2. From NUREG-0654, Initiating Condition Appendix 1, ALERT, Step 1.b, requires reactor water coolant analysis.

3. Derived from Attachment 7 of Procedure 5.7.17. This attachment in turn comes from NEDO-22215 and is only valid for LOCA conditions. This number (2500 rem/hr) approximates 1% fuel cladding failure. At this level, the "core degraded?" question in the dose assessment models will be answered YES.

4. Cladding integrity cannot be guaranteed if fuel is not covered with water. Note this EAL says below 0" (FZ). If level is intentionally lowered to 0" (FZ) (but not below) per EOPs, this EAL does not apply. If level falls below 0" (FZ) accidentally, even for a short time, this EAL does apply and the barrier shall be declared lost.

PRIMARY COOLANT BOUNDARY - POTENTIAL LOSS

1. Technical Specification leak rate limit.

PRIMARY COOLANT BOUNDARY - LOSS

1. If water level is inadvertently dropped below the top of fuel (as noted by Number 4 under FUEL CLADDING LOSS), then it shall be assumed that fuel cladding damage could have occurred, and the fission product boundary of cladding must be assumed lost. If, in addition, the water level cannot be returned and maintained above 0" (FZ), then the primary coolant boundary shall also be assumed to be lost. These two single fission product barriers lost equate to EAL: 2.3.2 (Known loss of Coolant Accident Greater Than Makeup Capacity) which is a SITE AREA EMERGENCY.

2. It does not take a large leak in the primary system to cause an increase in Drywell pressure. But, this is one of the first direct indicators available for the loss of the Primary Coolant Boundary fission product barrier.

3. From NUREG-0654, Initiating Condition, Appendix 1, ALERT, 5.

4. From NUREG-0654, Initiating Condition, Appendix 1, Notification of Unusual Event, 6.

PRIMARY CONTAINMENT - POTENTIAL LOSS

1. Represents a degrading trend representative of loss of control of some parameter affecting containment pressure. At this value (approximately half that of the loss value) the potential exists for loss.

2. Primary containment's design temperature is 281°F. Loss of all cooling capabilities may result in approaching this design limit.

3. Derived from NUREG/BR-0150, RTM-93 Table on page B-19. This is the beginning of the flammability region for a dry atmosphere.

4. Indicates a possible leak from primary containment.

PRIMARY CONTAINMENT - LOSS

1. From NUREG-0654, Initiating Condition Appendix 1, ALERT, 4.

2. Number 1 Loss indicator, above, refers to Primary Containment Isolation System (i.e., valves and associated logic). This indicator is intended to expand upon PCIS to include any indication that the containment's integrity is not intact. Also, valves other than PCIS may be used to isolate containment and restore the barrier.

3. 56 psig is the design pressure for containment. At or above this pressure, the containment is to be considered lost.

4. Derived from NUREG/BR-0150, RTM-93 Table on page B-19. This is the beginning of the detonation region for a dry atmosphere.

ISOLATION VALVE FAILURES

To help ensure consistent classification of fission product barrier loss due to failure of isolation valves, the following statements concerning isolation valve pairs apply:

1. Both valves in a line must fail.

2. The failing valves must fail to auto close on a group initiation signal.

3. The valves must also fail to close from the control switch in the Control Room. The timeliness of the Operator's recognition of the auto-close failure is not an issue in the determination of the barrier loss, that is, the barrier is not to be considered lost if the Operator has not yet tried to close the valves with the control switch.

4. If an Operator must leave the Control Room to close a valve, the barrier(s) shall be considered lost until a valve can be closed manually.

5. If the line penetrates PC and also communicates with the RPV, then two barriers are to be considered lost (EAL: 2.3.3 - SITE AREA EMERGENCY).

6. If either of the valves in a line are subsequently closed manually, then the barrier is to be considered restored and the emergency may be reclassified, as appropriate.

7. Valves other than PCIS may be used to isolate containment and restore the barrier.

A special case exists concerning SDV vent and drain valves when a scram occurs. When a scram occurs, these valves are supposed to close. While the scram inlet and outlet valves remain open (before the scram is reset) the water/steam isolated by these valves communicates directly to the reactor. The design fission product barriers (RPV and PC) have effectively "moved" from the scram valves to the vent and drain valves. If these valves fail, they therefore meet the criteria for loss of two of three fission product barriers (EAL: 2.3.3 - SITE AREA EMERGENCY).

A special case also exists concerning operation of HPCI and RCIC to support Emergency Operating Procedures (5.8 series). If HPCI or RCIC were to isolate on high temperature during operation to support the EOPs, the EOPs allow you to install jumpers to bypass the isolation and restart the system. This is allowed even if a leak from the steam supply is causing the high temperature condition. If a leak does in fact exist and the isolation valves are opened, this would constitute a loss of two fission product barriers (EAL: 2.3.3 - SITE AREA EMERGENCY). These barriers would be Reactor Coolant System and Primary Containment. The justification for the loss of the barriers is that you are releasing steam from the Reactor Coolant System to the atmosphere of the secondary containment. If the valves were reclosed, the fission product barriers would once again be considered intact.

Another issue was raised concerning the loss of a barrier due to local leak rate testing results. Local leak rate test results are not applicable to these EALs and valve position (i.e., can the valve be closed) will be the sole basis for declaring a barrier lost.

Information contained in Attachment 1, EAL Matrix, and Attachment 3, Fission Product Barriers-Indication of Loss Table, may be reformatted and placed on HARDCARDS similar to EOP Flowcharts. These EAL HARDCARDS will be controlled per this attachment. This information will be word for word but may be formatted differently using different font sizes or color backgrounds to assist the visual presentation.

Each EAL HARDCARD will be labeled with a EAL HARDCARD Revision data box that will list the latest revision and the date of the revision of the HARDCARD. This data will match the information below:

EAL HARDCARD Revision Data		
Procedure	HARDCARD Revision #	Date of last HARDCARD revision
EPIP 5.7.1, Attachment 4	Rev 0	4/17/00

It is not necessary that the HARDCARD revision number be revised with each revision of this procedure. However, if the HARDCARD is revised, or, if Attachment 1 or 3 are revised, then Attachment 4 must be revised to reflect the new EAL HARDCARD Revision Data with the new information.

EAL HARDCARD distribution will be made to following locations:

EAL HARDCARD Locations:

1. Control Room
2. Simulator
3. Emergency Operations Facility
4. Technical Support Center
5. Alternate Emergency Operations Facility
6. Emergency Preparedness Office

1. REFERENCES

1.1 TECHNICAL SPECIFICATION

1.1.1 Section 3.6, Containment Systems.

1.2 CODES AND STANDARDS

1.2.1 10CFR 50.72, Immediate Notification Requirements for Operating Nuclear Power Reactors.

1.2.2 NPPD Emergency Plan For CNS.

1.2.3 NUREG-0654, Revision 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.

1.2.4 NUREG/BR-0150, Volume 1, Revision 3, November 1993, Response Technical Manual.

1.2.5 Environmental Protection Agency EPA 400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, May 1992.

1.3 PROCEDURES

1.3.1 Instrumentation Operating Procedure 4.12, Seismic Instrumentation.

1.3.2 Emergency Plan Implementing Procedure 5.7.2, Shift Supervisor EPIP.

1.3.3 Emergency Plan Implementing Procedure 5.7.16, Release Rate Determination.

1.3.4 Emergency Plan Implementing Procedure 5.7.17, Dose Assessment.

1.4 MISCELLANEOUS

1.4.1 NRC Inspection Reports: 87-25, 88-29, 91-27, 92-14, and 93-24.

1.4.2 Letter CNSS900421 from Meacham to ERO, dated August 7, 1990, Clarification of Certain Emergency Action Levels (EALs).

1.4.3 Telecon Krumland/Hayden to Spitzberg (NRC IV), dated August 22, 1990, EAL Interim Guidance.

1.4.4 Telecon Hayden/Dean to Terc (NRC IV), dated April 22, 1992, Spent Fuel EAL 3.3.1.

1.4.5 Letter NSD940202 from G. R. Smith to G. R. Horn, Commitments from 1/31/94 Enforcement Conference.

1.4.6 Memorandum from Richard L. Emch, Jr., Acting Chief of Emergency Preparedness Branch, Division of Radiation Safety and Safeguards, Office of Nuclear Reactor Regulation, to James H. Joyner (Region 1), William E. Cline (Region 2), John A. Grobe (Region 3), and Blaine Murray (Region 4), dated July 11, 1994. Subject: Branch Position on Acceptable Deviations to Appendix 1 to NUREG-0654/FEMA-REP-1.

1.4.7 NEDC 00-099, Core dp vs. Flow Curve for Determination of Degraded Core.

1.4.8 RCR 2001-0871, Action #2. Revised memo field of EAL 4.1.1 to discuss need to classify if power to both S/U and EMER XFMR is lost > 15 minutes.

CNS OPERATIONS MANUAL EPIP PROCEDURE 5.7.2 SHIFT SUPERVISOR EPIP	USE: REFERENCE ⊛ EFFECTIVE: 11/12/01 APPROVAL: SORC OWNER: R. J. FISCHER DEPARTMENT: EP

1. PURPOSE

This procedure provides a series of actions to be taken by the Shift Supervisor upon declaration of an Emergency Classification. Personnel shall be directed to use additional procedures to adequately respond to an emergency event.

2. REQUIREMENTS

[ ] 2.1 A Emergency has been declared per Procedure 5.7.1.

3. INITIAL ACTIONS

[ ] 3.1 The Shift Supervisor, immediately following classification of an emergency, shall declare to the Control Room Staff the classification. He shall include in the announcement the time of the classification and the EAL on which the classification is based per Procedure 5.7.1.

[ ] 3.2 The Shift Supervisor shall initially assume the role of the Emergency Director and announce this to the Control Room Staff. He shall remain Emergency Director until relieved by another qualified Emergency Director.

[ ] **NOTE** - If a threat to personnel safety exists (i.e., weather, security threat, radiological release) or personnel accountability has already been completed, Attachment 3, Emergency Announcement Without Accountability, is used.©

[ ] 3.3 The Emergency Director shall ensure one of the following emergency announcements is made over the station Gaitronics at each emergency classification to notify station personnel of the emergency and initiate personnel assembly and accountability per Procedure 5.7.10.

[ ] 3.3.1 If initial accountability has not been previously performed, and is required or warranted, complete Attachment 2 of this procedure and proceed with announcement.

[ ] 3.3.2 If initial accountability has been previously performed, or is not required or warranted, complete Attachment 3 of this procedure and proceed with announcement.

[ ] 3.4 The Emergency Director should ensure the CNS Automated Notification System (ANS) is activated immediately after the emergency declaration per Procedure 5.7.6, Attachment 4. The Emergency Director shall assign an individual to perform activation of the ANS System. The Emergency Director may request assistance in activation of the system from Shift Communicator, Shift Technical Engineer, or Emergency Preparedness Coordinator. A description of the CNS Automated Notification System can be found in Procedure 5.7.22. If after two unsuccessful attempts, the CNS ANS is discovered to be inoperable (i.e., no Control Room personnel pagers are activated), use the backup method of ERO pager activation found in Procedure 5.7.6, Attachment 5.

[ ] 3.5 The Emergency Director shall ensure initial notification to responsible state and local governmental agencies is completed within 15 minutes of each declaration of an emergency class, including any class escalation, per Procedure 5.7.6.

[ ] 3.6 The Emergency Director shall make a Protective Action Recommendation (PAR) as part of the Initial Notifications and Follow-Up to responsible state and local governmental agencies, even if the PAR is "None". Guidance for making PARs is contained in Procedure 5.7.20.

[ ] 3.6.1 If appropriate, perform a dose calculation per Procedure 5.7.17 to determine PAR.

[ ] 3.6.1.1 The automatic minimum PAR for a GENERAL EMERGENCY is evacuation of 2 mile radius and 5 miles downwind of the site and go indoors and monitor EAS/EBS for the remainder of the 10 mile Emergency Planning Zone (EPZ).

[ ] 3.7 The Emergency Director shall ensure the NRC is notified via the Emergency Notification System (ENS) immediately after notification of responsible state and local governmental agencies and not later than 1 hour after the time of declaration of one of the emergency classes.

[ ] 3.8 The Emergency Director shall ensure the Emergency Response Data Systems (ERDS) is activated using the PMIS START/STOP Menu. This shall be done in the Control Room as soon as possible but not later than 1 hour after the time of declaration of an ALERT or higher classification.

4. FOLLOW-UP EMERGENCY DIRECTOR ACTIONS

[ ] 4.1 If appropriate, perform additional dose calculations per Procedure 5.7.17 to determine if PARs are adequate. If the dose calculation indicates that a more conservative PAR is necessary, immediately notify off-site agencies of the new PAR per Procedure 5.7.6.

[ ] 4.1.1 Evaluate whether the use of KI by on-site Emergency Response personnel is warranted per Procedure 5.7.14.

[ ] 4.2 During an ALERT or higher class emergency, perform follow-up notifications to State and Local Agencies at least every 60 minutes or sooner if there is a significant change in the status of the emergency per Procedure 5.7.6.

[ ] 4.3 Consider dismissal of all Non-ERO personnel from the Station at the ALERT classification. Evacuate all Non-ERO personnel at the SITE AREA EMERGENCY classification per Procedure 5.7.11.

[ ] 4.4 Re-evaluate the emergency classification as conditions change per Procedure 5.7.1. Escalate to a higher emergency classification if conditions warrant.

[ ] 4.5 Reclassify or terminate the emergency, if appropriate, per Procedure 5.7.1. If the emergency is terminated, provide notification of termination to responsible state and local governmental agencies per Procedure 5.7.6.

[ ] 4.6 The Emergency Director shall reference the checklist contained in Attachment 1 or similar. Write the time the action was performed in the appropriate Emergency Classification Column. Implement any additional actions deemed necessary.

Write the time the action was completed inside each appropriate column box. NA = Not Applicable

ACTION	EPIP	NOUE	ALERT	SAE	GE
1. Declare event and announce to the Control Room Staff. Required for **Each** emergency classification.	5.7.1				
2. Assign individual to initiate ERO notification and staff augmentation by activating the CNS Automated Notification System (ANS). The back-up method of ERO pager activation should be utilized after two unsuccessful attempts at activating the CNS ANS. Do not re-activate the System if Emergency Response Facilities are already being activated.	5.7.6				
3. Make appropriate PA announcement to Site personnel. Required for **Each** emergency classification.	5.7.2				
4. Perform initial notifications to responsible state and local governmental agencies. (Within 15 minutes of **Each** emergency declaration.)	5.7.6				
5. Make PARs to off-site agencies. Required for **Each** emergency classification. (Perform Dose Assessment if appropriate as per Step 10.)	5.7.6 5.7.20				
6. Perform initial notifications to NRC. Required for **Each** emergency classification. (Immediately after notification of state and local agencies, and not later than 1 hour after the time of declaration.)	5.7.6				
7. Activate the Emergency Response Data System (ERDS). (As soon as possible but not later than 1 hour after the time of declaration of an ALERT or Higher Classification.)	5.7.2	NA			
8. Perform Personnel Assembly and Accountability. (Within 30 minutes of declaration of an ALERT or Higher Classification.)	5.7.10	NA			

ACTION	EPIP	NOUE	ALERT	SAE	GE
9. Complete follow-up notifications to off-site agencies if Significant Status change or at least every 60 minutes after declaration of an ALERT or Higher Classification.	5.7.6	NA			
10. Perform Dose Assessments.	5.7.17	NA	NA		
11. Evaluate if KI should be recommended for use by NPPD ERO personnel.	5.7.14	NA	NA		
12. Consider dismissal of Non-ERO personnel from the Site.	5.7.11			NA	NA
13. Evacuate all Non-ERO personnel from the Station.	5.7.11	NA	NA		
14. Re-evaluate the Emergency Classification as conditions change.	5.7.1				
15. Turn-over ED duties when relieved by another qualified ED. The Technical Communicator's PIM contains the Control Room Turnover Worksheet.	5.7.2				

WHEN PERSONNEL SAFETY IS THREATENED OR PERSONNEL ACCOUNTABILITY HAS ALREADY BEEN COMPLETED, USE ATTACHMENT 3.

Activate the Emergency Alarm for 10 seconds and make the following announcement over station Gaitronics:

Attention All Station Personnel, _____, ____(REPEAT)____

at _____ the Emergency Director declared a (an) _____.

There is (1) _____

_____

_____

_____.

All personnel report to your Designated Assembly Areas for initial accountability.

All personnel stay clear of (2) _____

_____

_____.

Activate the Emergency Alarm for 10 seconds and repeat the announcement over the station Gaitronics.

Active the Emergency Alarm for 30 seconds.

(1) Give a Brief description of the emergency event and location (refer to Procedure 5.7.1 for assistance, if necessary).

(2) State any locations that should be avoided due to the emergency conditions. For emergency situations involving high radiological conditions, hazardous materials, fire, or other hostile environments, specific evacuation routes should be included in the announcement to ensure personnel are directed around the affected area.

USE THIS ATTACHMENT WHEN PERSONNEL SAFETY IS THREATENED OR PERSONNEL ACCOUNTABILITY HAS ALREADY BEEN COMPLETED.

Activate the Emergency Alarm for 10 seconds and make the following announcement over station Gaitronics:

Attention All Station Personnel, _____, (REPEAT)

at _____ the Emergency Director declared a (an) _____.

There is (1) _____

_____

_____

_____.

All personnel stay clear of (2) _____

_____.

Activate the Emergency Alarm for 10 seconds and repeat the announcement over the station Gaitronics.

Active the Emergency Alarm for 30 seconds.

(1) Give a Brief description of the emergency event and location (refer to Procedure 5.7.1 for assistance, if necessary). Some examples include:

There is:

- a radiological event involving . . . .
- a fire affecting . . . .
- a security event resulting in . . . .
- an adverse weather condition resulting in . . . .©

(2) State any locations that should be avoided due to the emergency conditions. For emergency situations involving high radiological conditions, hazardous materials, fire, or other hostile environments, specific evacuation routes should be included in the announcement to ensure personnel are directed around the affected area.

1. DISCUSSION

1.1 The responsibility and authority to classify events and make emergency declarations rests with the Emergency Director. The Shift Supervisor shall initially assume the role of the Emergency Director and remain so until relieved by another qualified Emergency Director. Certain actions may still need to be performed by the Shift Supervisor, as requested by the Emergency Director, after command and control of the emergency response has been transferred to the EOF.

1.2 Four standardized emergency classifications have been established; they are:

1.2.1 NOTIFICATION OF UNUSUAL EVENT (NOUE).

1.2.2 ALERT.

1.2.3 SITE AREA EMERGENCY (SAE).

1.2.4 GENERAL EMERGENCY (GE).

1.3 The rationale for the NOUE and ALERT classes is to provide early and prompt recognition and notification of minor events which could lead to more serious consequences or which might be indicative of more serious conditions which are not yet fully realized.

1.4 The SAE and GE classes reflect conditions where significant radiological releases are likely or are occurring or there is actual or imminent substantial core degradation or melting with potential for loss of containment. These classifications warrant full mobilization of Emergency Response Organizations and the alerting of the public.

1.5 Upon the declaration of any emergency classification, prompt notification is made to the responsible state and local governmental agencies to ensure sufficient emergency response personnel are mobilized and respond to the event in accordance with their respective radiological emergency response plans.

1.6 All on-site Emergency Response Facilities are activated following the declaration of an ALERT or higher classification. Activation of Facilities and/or assembly and accountability activities may be delayed if determined by the Emergency Director that personnel safety would be threatened. Facility activation and/or assembly and accountability shall be accomplished as soon as practical after safety concerns pass.

1.7 Representatives from Federal and State agencies may dispatch personnel to the EOF. The decision to make prompt notification of the general public will be made at a SAE or GE by the appropriate governmental agencies.

1.8 Assessment of meteorological data, radiological dose projections, and other parameters will be made to determine the type of Protective Action Recommendations (PARs) necessary for the protection of the general public. Off-site authorities will implement appropriate protective actions for affected populations based on those PARs, as well as other data they have assembled. The general public will be kept informed of events by media facilities with periodic releases of updated information.

1.9 Contracted service companies, sponsor utilities, and other industry resources may be alerted and requested to render assistance as appropriate. In addition, federal resources may be called upon for assistance.

1.10 The Emergency Director shall escalate, terminate, or reduce the emergency classification as conditions warrant.

2. REFERENCES

2.1 CODES AND STANDARDS

2.1.1 NPPD Emergency Plan for CNS.

2.1.2 NUREG 0654, Revision 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.

2.1.3 NUREG BR-0150, Volume 1, Revision 1.

2.2 PROCEDURES

2.2.1 Emergency Plan Implementing Procedure 5.7.1, Emergency Classification.

2.2.2 Emergency Plan Implementing Procedure 5.7.6, Notification.

2.2.3 Emergency Plan Implementing Procedure 5.7.10, Personnel Assembly and Accountability.

2.2.4 Emergency Plan Implementing Procedure 5.7.11, Evacuation of Non-Designated Site Personnel.

2.2.5 Emergency Plan Implementing Procedure 5.7.14, Stable Iodine Thyroid Blocking (KI).

2.2.6 Emergency Plan Implementing Procedure 5.7.17, Dose Assessment.

2.2.7 Emergency Plan Implementing Procedure 5.7.20, Protective Action Recommendations.

2.2.8 Emergency Plan Implementing Procedure 5.7.22, Communications.

2.3 MISCELLANEOUS

2.3.1 NRC Information Notice 83-28.

2.3.2 NRC Inspection Report 94-11.

2.3.3 CNS Emergency Telephone Directory.

2.3.4 © NRC Inspection Report 98-12. Affects NOTE prior to Step 3.3 and Attachment 3.

2.3.5 RCR 2001-0354, Action 13.

CNS OPERATIONS MANUAL EPIP PROCEDURE 5.7.7 ACTIVATION OF TSC	USE: REFERENCE EFFECTIVE: 11/21/01 APPROVAL: SORC OWNER: R. J. FISCHER DEPARTMENT: EP

1. PURPOSE

[ ] 1.1 This procedure describes the activation and subsequent operation of the Technical Support Center in the event of an ALERT or higher classification.

[ ] 1.2 The topics addressed are:

[ ] 1.2.1 Functions of the TSC and its interface with other on-site Emergency Response Facilities.

[ ] 1.2.2 Activation criteria, including a list of positions and their associated responsibilities.

2. PRECAUTIONS AND LIMITATIONS

[ ] 2.1 If the Area Radiation Monitor and/or the Continuous Air Monitor alarms, an area habitability survey should be conducted.

[ ] 2.2 If the Chemistry/Radiological Protection Coordinator determines that the TSC is uninhabitable, the TSC functions shall be transferred to the Control Room until personnel relocate to the EOF and reassume them.

[ ] 2.3 The TSC shall be activated in ~ 1 hour from the time of declaration of an ALERT or higher classification.

3. ACTIVATION AND OPERATION OF THE TSC

[ ] 3.1 Upon declaration of an ALERT or higher classification, TSC personnel shall report to the TSC. ERO positions assigned a Positional Instruction Manual (PIM) as defined below shall obtain their PIM when reporting to the TSC and follow instructions contained within.

[ ] 3.1.1 TSC Director is responsible for:

[ ] 3.1.1.1 Taking charge of all TSC functions and activities and coordinating the in-plant emergency response.

[ ] 3.1.1.2 Providing technical assistance and recommendations to the Control Room to mitigate emergency conditions.

[ ] 3.1.1.3 Ensuring proper priority is established for repair activities.

[ ] 3.1.1.4 Directing on-site protective actions for Emergency Response Organization Personnel.

[ ] 3.1.1.5 Ensuring Emergency Director is kept informed of current plant status and potential changes in emergency classification.

[ ] 3.1.2 Operations Coordinator is responsible for:

[ ] 3.1.2.1 Providing a liaison between the Control Room and the TSC/OSC Staffs on personnel, technical, and administrative issues related to plant operations.

[ ] 3.1.2.2 Keeping the TSC Director and TSC Staff informed of any significant changes in plant conditions.

[ ] 3.1.2.3 Informing the Control Room of changing radiological conditions and on-going TSC activities.

[ ] 3.1.2.4 Evaluate and provide technical input on repair missions including Control Room clearances.

[ ] 3.1.3 Engineering Coordinator is responsible for:

[ ] 3.1.3.1 Directing the efforts of the Engineering Group through the Engineering Team Leader.

[ ] 3.1.3.2 Maintaining liaison with General Electric, Burns & Roe, Inc., Institute of Nuclear Power Operations, and other contract support groups.

[ ] 3.1.3.3 Developing Special Procedures and modifications which may be needed.

[ ] 3.1.3.4 Ensuring the TSC Staff is kept informed of Engineering efforts and activities.

[ ] 3.1.4 Maintenance Coordinator is responsible for:

[ ] 3.1.4.1 Analyzing the status of damaged or inoperable plant systems. Provide repair options to TSC Management on restoration of equipment to operational status along with realistic repair times.

[ ] 3.1.4.2 Assisting the TSC Director to establish priorities for repair and maintenance activities.

[ ] 3.1.4.3 Communicating repair and maintenance priorities to the OSC Supervisor.

[ ] 3.1.4.4 Briefing the TSC Director on repair/re-entry team status.

[ ] 3.1.5 Chemistry/Radiological Protection Coordinator is responsible for:

[ ] 3.1.5.1 Assessing radiological doses, recommending radiation protection measures, directing radiological surveys and decontamination actions, and assisting in assessment of off-site consequences.

[ ] 3.1.5.2 Providing chemical analyses for the evaluation of station systems and provide data to aid in the determination of reactor core conditions and release potentials.

[ ] 3.1.5.3 Providing technical expertise on release rates and dose projections.

[ ] 3.1.5.4 Determining the status of TSC/OSC habitability.

[ ] 3.1.5.5 Briefing the TSC Director on in-plant radiological concerns.

[ ] 3.1.6 Operations/EOP Advisor is responsible for:

[ ] 3.1.6.1 Providing operational information to the TSC Director.

[ ] 3.1.6.2 Monitoring EALs for potential upgrades in emergency classification.

[ ] 3.1.6.3 Monitoring EOPs to ensure the TSC Staff is aware of current and future plant activities and needs with respect to potential EOP implementation.

[ ] 3.1.6.4 Maintaining an open communication line with the Control Room and the EOF.

[ ] 3.1.7 ENS Communicator is responsible for providing continuous communication with the NRC, when requested.

[ ] 3.1.8 Security Coordinator is responsible for:

[ ] 3.1.8.1 Maintaining site security per the Site Security Plan.

[ ] 3.1.8.2 Providing specific direction to the Security Shift Supervisor during emergency events.

[ ] 3.1.8.3 Coordinating personnel assembly and accountability, evacuation of personnel from the site, and maintaining site access control during emergency events.

[ ] 3.1.8.4 Providing security for the Emergency Response Facilities.

[ ] 3.1.8.5 Acting as a liaison with State and Local Law Enforcement Agencies arriving at the site.

[ ] 3.1.9 Administrative Assistant is responsible for providing support while the TSC is operational.

[ ] 3.1.10 TSC Logkeeper is responsible for maintaining a log of all TSC activities.

[ ] 3.1.11 Engineering Team Leader is responsible for:

[ ] 3.1.11.1 Ensuring proper Engineering staffing.

[ ] 3.1.11.2 Assigning Engineering Staff tasks based on the priorities set by the Engineering Coordinator.

[ ] 3.1.11.3 Ensuring trending of key plant parameters is being performed.

[ ] 3.1.11.4 Communicate Engineering analyses and solutions to the Engineering Coordinator.

[ ] 3.1.12 Control Parameter Assessment Engineer is responsible for evaluating the availability of instrumentation used to determine values of the Emergency Operation Procedures/Severe Accident Guideline control parameters.

[ ] 3.1.13 Functional Status Assessment Engineer is responsible for evaluating the availability of plant systems which may be used to perform functions specified in the Plant Specific Technical Guidelines/Severe Accident Technical Guidelines.

4. EVACUATION OF THE TSC

[ ] **NOTE 1** - If emergency conditions dictate evacuation of the TSC, relocation of the TSC will be to the EOF where the TSC functions will be performed.

[ ] **NOTE 2** - TSC personnel should take the necessary materials from the TSC with them when relocating so they can perform their TSC duties in the EOF.

[ ] 4.1 The TSC personnel shall be evacuated and TSC functions relocated if any of the following occur:

[ ] 4.1.1 It is determined that habitability in the facility cannot be maintained because of loss of TSC equipment or the safety of TSC personnel is jeopardized because of environmental concerns.

[ ] 4.1.2 The functions of the TSC as listed in Attachment 1 cannot be performed by either the established primary or backup methods.

[ ] 4.1.3 A major loss of equipment occurs and that loss would prevent personnel from performing the intended functions of the TSC.

[ ] 4.2 TSC personnel shall relocate to the following areas to perform their duties:

[ ] 4.2.1 The TSC Director, ENS Communicator, Engineering Coordinator, Chem/RP Coordinator, Maintenance Coordinator, and Operations Coordinator shall report to the "NRC Briefing Room".

[ ] 4.2.2 The Ops/EOP Advisor shall co-locate with the EOF Ops/EOP Advisor.

[ ] 4.2.3 The Security Coordinator shall co-locate with the Logistics Coordinator.

[ ] 4.2.4 The Engineering staff shall assemble in the Training Building, Classroom J.

[ ] 4.2.5 The Administrative Assistant and Log Keeper shall report to the TSC Director and standby in the "Information Authentication Center".

[ ] 4.2.6 Reporting agencies may utilize the "State Conference Room".

1. DISCUSSION

1.1 FUNCTIONS OF TSC

1.1.1 TSC provides facilities, communications, and technical data to support the CNS Emergency Response Organization. TSC personnel shall research drawings, specifications, test data, and other Engineering data as required to:

1.1.1.1 Provide Technical Support to Control Room Operations Personnel by:

a. Recommending courses of action which may be taken to mitigate the consequences of the event.

b. Evaluating the effects of abnormal system configuration on future operational evolutions and to assure such evolutions are properly planned.

c. Diagnosing station conditions and performing trending of key parameters to ensure technical evaluations are being conducted with the most current information.

1.1.2 TSC also:

1.1.2.1 Directs accident mitigation activities by:

a. Ensuring proper priority is established for repair activities.

b. Developing special procedures and system modifications that may be needed.

1.1.2.2 Provides up-to-date information to the NRC via a continuously manned communications link.

1.1.2.3 Provides for the safety of on-site Emergency Response personnel.

1.2 The TSC is located on the 903' level of the Administration Building south of the main RCA entrance.

1.3 STAFFING OF TSC

1.3.1 Positional Instruction Manuals (PIMs) contain positional checklists for the activation and operation of the TSC. PIMs are numbered and controlled by the Emergency Preparedness department, labeled by ERO position, and are located in the TSC.

1.3.2 When fully manned, the TSC is staffed with the following personnel:

1.3.2.1 *TSC Director - PIM #01.

1.3.2.2 *Engineering Coordinator - PIM #02.

1.3.2.3 *Maintenance Coordinator - PIM #03.

1.3.2.4 *Chemistry/Radiological Protection Coordinator - PIM #04.

1.3.2.5 Operations/Emergency Operating Procedure Advisor - PIM #05.

1.3.2.6 ENS Communicator - PIM #07.

1.3.2.7 Security Coordinator - PIM #08.

1.3.2.8 Administrative Assistant - PIM #09.

1.3.2.9 TSC Logkeeper - PIM #10.

1.3.2.10 Engineering Team Leader - PIM #11.

1.3.2.11 *Operations Coordinator - PIM #12.

1.3.2.12 Electrical Engineer - PIM #13.

1.3.2.13 Mechanical Engineer - PIM #14.

1.3.2.14 Reactor Engineer - PIM #15.

1.3.2.15 Civil Engineer - PIM #16.

1.3.2.16 Control Status Assessment Engineer - PIM #17.

1.3.2.17 Function Status Assessment Engineer - PIM #18.

*Minimum staff required for activation.

2. REFERENCES

2.1 CODES AND STANDARDS

2.1.1 NPPD Emergency Plan for CNS.

2.1.2 NUREG 0654, Revision 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.

2.2 PROCEDURES

2.2.1 Emergency Plan Implementing Procedure 5.7.1, Emergency Classification.

2.2.2 Emergency Plan Implementing Procedure 5.7.10, Personnel Assembly and Accountability.

2.2.3 Emergency Plan Implementing Procedure 5.7.11, Evacuation of Non-Designated Site Personnel.

2.2.4 Emergency Plan Implementing Procedure 5.7.21, Emergency Equipment Inventory.

2.2.5 Emergency Plan Implementing Procedure 5.7.22, Communications.

2.3 MISCELLANEOUS

2.3.1 QA Audit 86-06.

2.3.2 NRC Inspection Report 91-12, Emergency Preparedness Annual Inspection Report.

2.3.3 NRC Inspection Report 92-14, Accident Management Techniques.

2.3.4 QA Audit 93-05.

2.3.5 NRC Inspection Report 93-24, Emergency Preparedness Exercise Report.

CNS OPERATIONS MANUAL EPIP 5.7.8 ACTIVATION OF OSC	USE: REFERENCE EFFECTIVE: 10/30/01 APPROVAL: SORC OWNER: S. C. REZAB DEPARTMENT: EP

1. PURPOSE

This procedure describes the activation and subsequent operation of the Operations Support Center (OSC) in the event of an ALERT or higher classification.

2. PRECAUTIONS AND LIMITATIONS

[ ] 2.1 If the Area Radiation Monitor alarms, an area habitability survey should be conducted immediately.

[ ] 2.2 If the OSC becomes uninhabitable, OSC personnel and equipment will relocate to the Alternate OSC as per Procedure 5.7.8.1.

[ ] 2.3 The OSC shall be activated within ~ 1 hour of the declaration of an ALERT or higher classification.

3. ACTIVATION AND OPERATION OF THE OSC

[ ] 3.1 Upon declaration of an ALERT or higher classification, OSC personnel shall report to the OSC. ERO positions assigned a Positional Instruction Manual (PIM), as defined below, shall obtain their PIM when reporting to the OSC and follow instructions contained within.

[ ] 3.2 OSC Supervisor and OSC Lead personnel shall report to the OSC and obtain their PIMs.

[ ] 3.3 The OSC Supervisor is responsible for:

[ ] 3.3.1 Managing the OSC to ensure accident mitigation activities are performed in a safe and expeditious manner.

[ ] 3.3.2 Ensuring equipment repair and restoration priorities established by the TSC are being followed.

[ ] 3.3.3 Coordinating OSC tasks.

[ ] 3.3.4 Resolving resource allocation conflicts.

[ ] 3.3.5 Ensuring periodic communication with the Team Leader in the field is accomplished.

[ ] 3.4 Chemistry/Radiological Protection Lead is responsible for:

[ ] 3.4.1 Interfacing with the OSC Supervisor and Chemistry/Radiological Protection Coordinator to coordinate Chemistry/Radiological Protection coverage for OSC Teams.

[ ] 3.4.2 Evaluating tasks and selecting team personnel.

[ ] 3.4.3 Reviewing missions to determine Radiological Protection (RP) coverage, protective equipment requirements, etc.

[ ] 3.4.4 If Chemistry/Radiological Protection Coordinator determines that SCBAs need to be used, verify team members are respirator qualified per the appropriate Radiological Protection Procedure.

[ ] 3.4.5 Participating in the team briefing prior to team being dispatched. Items to be discussed should include:

[ ] 3.4.5.1 Team destination and objectives.

[ ] 3.4.5.2 Identification of Team Leader.

[ ] 3.4.5.3 Radiological/protective actions to be taken.

[ ] 3.4.5.4 Primary and backup methods of communication.

[ ] 3.4.5.5 Procedures required.

[ ] 3.4.5.6 Tools required.

[ ] 3.4.5.7 Protective equipment needed.

[ ] 3.4.6 Completing Section 1 of the Team Dispatch/Tracking Form per Procedure 5.7.15.

[ ] 3.4.7 Communicating with the Team Leaders to determine team status.

[ ] 3.4.8 Advising the OSC Supervisor of the teams status.

[ ] 3.4.9 Participating in team debriefings, as appropriate, of a dispatched OSC Team upon its return to the OSC and recording debriefing information in Section 2 of the Team Dispatch/Tracking Form per Procedure 5.7.15.

[ ] 3.4.10 Maintaining continuous accountability for all Chem/RP personnel assigned to the OSC responding to the emergency.

[ ] 3.5 Mechanical Lead is responsible for:

[ ] 3.5.1 Interfacing with the OSC Supervisor with regard to the need for OSC Teams of a mechanical nature.

[ ] 3.5.2 Evaluating repair tasks and selecting team personnel.

[ ] 3.5.3 Participating in the team briefing prior to team being dispatched if Mechanical systems are affected. Items to be discussed should include:

[ ] 3.5.3.1 Team destination and objectives.

[ ] 3.5.3.2 Identification of Team Leader.

[ ] 3.5.3.3 Primary and backup methods of communication.

[ ] 3.5.3.4 Procedures required.

[ ] 3.5.3.5 Tools required.

[ ] 3.5.3.6 Protective equipment needed.

[ ] 3.5.4 Completing Section 1 of the Team Dispatch/Tracking Form per Procedure 5.7.15.

[ ] 3.5.5 Communicating with the Team Leaders to determine team status.

[ ] 3.5.6 Participating in the debriefing, as appropriate, of a dispatched OSC Team upon its return to the OSC and recording debriefing information in Section 2 of the Team Dispatch/Tracking Form per Procedure 5.7.15.

[ ] 3.5.7 Advising the OSC Supervisor of the teams status.

[ ] 3.5.8 Maintaining continuous accountability for all mechanical personnel assigned to the OSC responding to the emergency.

[ ] 3.6 I&C Lead is responsible for:

[ ] 3.6.1 Interfacing with the OSC Supervisor with regard to the need for OSC Teams of an I&C nature.

[ ] 3.6.2 Evaluating repair tasks and selecting team personnel.

[ ] 3.6.3 Participating in the team briefing prior to team being dispatched if I&C systems are affected. Items to be discussed should include:

[ ] 3.6.3.1 Team destination and objectives.

[ ] 3.6.3.2 Identification of Team Leader.

[ ] 3.6.3.3 Primary and backup methods of communication.

[ ] 3.6.3.4 Procedures required.

[ ] 3.6.3.5 Tools required.

[ ] 3.6.3.6 Protective equipment needed.

[ ] 3.6.4 Completing Section 1 of the Team Dispatch/Tracking Form per Procedure 5.7.15.

[ ] 3.6.5 Communicating with the Team Leaders to determine team status.

[ ] 3.6.6 Participating in the debriefing, as appropriate, of dispatched OSC Team upon its return to the OSC and recording debriefing information in Section 2 of the Team Dispatch/Tracking Form per Procedure 5.7.15.

[ ] 3.6.7 Advising OSC Supervisor of the teams status.

[ ] 3.6.8 Maintaining continuous accountability for all I&C Technicians assigned to the OSC responding to the emergency.

[ ] 3.7 Electrical Lead is responsible for:

[ ] 3.7.1 Interfacing with the OSC Supervisor with regard to the need for OSC Teams of an electrical nature.

[ ] 3.7.2 Evaluating repair tasks and selecting team personnel.

[ ] 3.7.3 Participating in the team briefing prior to team being dispatched if electrical systems are affected. Items to be discussed should include:

[ ] 3.7.3.1 Team destination and objectives.

[ ] 3.7.3.2 Identification of Team Leader.

[ ] 3.7.3.3 Primary and backup methods of communication.

[ ] 3.7.3.4 Procedures required.

[ ] 3.7.3.5 Tools required.

[ ] 3.7.3.6 Protective equipment needed.

[ ] 3.7.4 Completing Section 1 of the Team Dispatch/Tracking Form per Procedure 5.7.15.

[ ] 3.7.5 Communicating with the Team Leaders to determine team status.

[ ] 3.7.6 Participating in the debriefing, as appropriate, of dispatched OSC Team upon its return to the OSC and recording debriefing information in Section 2 of the Team Dispatch/Tracking Form per Procedure 5.7.15.

[ ] 3.7.7 Advising the OSC Supervisor of the teams status.

[ ] 3.7.8 Maintaining continuous accountability for all Electricians assigned to the OSC responding to the emergency.

[ ] 3.8 Utility Lead is responsible for:

[ ] 3.8.1 Interfacing with the OSC Supervisor with regard to the need for OSC Teams of a utility nature.

[ ] 3.8.2 Evaluating repair tasks and selecting team personnel.

[ ] 3.8.3 Participating in the team briefing prior to team being dispatched. Items to be discussed should include:

[ ] 3.8.3.1 Team destination and objectives.

[ ] 3.8.3.2 Identification of Team Leader.

[ ] 3.8.3.3 Primary and backup methods of communication.

[ ] 3.8.3.4 Procedures required.

[ ] 3.8.3.5 Protective equipment needed.

[ ] 3.8.4 Completing Section 1 of the Team Dispatch/Tracking Form per Procedure 5.7.15.

[ ] 3.8.5 Communicating with the Team Leaders to determine team status.

[ ] 3.8.6 Participating in the debriefing, as appropriate, of a dispatched OSC Team upon its return to the OSC and recording debriefing information in Section 2 of the Team Dispatch/Tracking Form per Procedure 5.7.15.

[ ] 3.8.7 Advising OSC Supervisor of the teams status.

[ ] 3.8.8 Maintaining continuous accountability for all utility personnel assigned to the OSC responding to the emergency.

4. EVACUATION OF THE OSC

[ ] **NOTE** - Evacuation of OSC to AOSC will be conducted using Procedure 5.7.8.1, as a guideline.

[ ] 4.1 The OSC personnel shall be evacuated and OSC functions relocated if any of the following occur:

[ ] 4.1.1 It is determined that habitability in the facility cannot be maintained because of loss of OSC equipment or the safety of OSC personnel is jeopardized because of environmental concerns.

[ ] 4.1.2 The functions of the OSC as listed in Attachment 1 cannot be performed by either the established primary or backup methods.

[ ] 4.1.3 A major loss of equipment occurs and that loss would prevent personnel from performing the intended functions of the OSC.

1. DISCUSSION

1.1 FUNCTIONS OF THE OSC

1.1.1 The OSC is the assembly and staging area for CNS personnel for emergency response assignments.

1.1.2 The OSC provides a location were plant logistic support can be coordinated during an emergency.

1.2 The OSC Staff may consist of trained, designated personnel from the following CNS Departments:

1.2.1 *Chemistry/Radiological Protection (six minimum).

1.2.1.1 Radiological Protection Technicians.

1.2.1.2 Chemistry Technicians.

1.2.2 Maintenance.

1.2.2.1 *Mechanics (two minimum).

1.2.2.2 Welders.

1.2.2.3 Machinists.

1.2.2.4 *Electricians (two minimum).

1.2.2.5 Utility men.

1.2.2.6 *I&C Technicians (two minimum).

1.2.3 Others.

1.2.3.1 Warehouse personnel.

1.2.3.2 Operations personnel.

1.2.3.3 Engineering personnel.

* Required to declare facility operational.

1.3 Repair, rescue, and radiological monitoring team members are chosen from the OSC Staff by the OSC Lead personnel which in their opinion are best suited for a particular team mission. The OSC leaders shall brief the team members on the task assignment.

1.4 The OSC is located on the 903' elevation of the Administration Building near the TSC. The OSC is the designated assembly area for initial accountability for the OSC Staff.

1.5 Positional Instruction Manuals (PIMs) contain positional checklists for the activation and operation of the OSC. PIMs are numbered and controlled by the Emergency Preparedness Department, labeled by ERO position, and are located in the OSC.

1.5.1 OSC Supervisor - PIM #1.

1.5.2 Chemistry/Radiological Protection OSC Lead - PIM #2.

1.5.3 Mechanical OSC Lead - PIM #3.

1.5.4 Electrical OSC Lead - PIM #4.

1.5.5 I&C OSC Lead - PIM #5.

1.5.6 Utility Lead - PIM #6.

1.5.7 Warehouse Personnel - PIM #7.

1.5.8 OSC Clerk - PIM #8.

1.6 If emergency conditions dictate relocation from the OSC, emergency repair or rescue activities will be accomplished from the Alternate OSC. The Alternate OSC is located on the 932' level of the Turbine Building (I&C Shop). Activation of the alternate OSC shall be accomplished per Procedure 5.7.8.1.

2. REFERENCES

2.1 CODES AND STANDARDS

2.1.1 NPPD Emergency Plan for CNS.

2.1.2 NUREG 0654, Revision 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.

2.2 PROCEDURES

2.2.1 Emergency Plan Implementing Procedure 5.7.1, Emergency Classification.

2.2.2 Emergency Plan Implementing Procedure 5.7.8.1, Activation of Alternate OSC.

2.2.3 Emergency Plan Implementing Procedure 5.7.15, OSC Team Dispatch.

2.2.4 Emergency Plan Implementing Procedure 5.7.21, Emergency Equipment Inventory.

2.2.5 Emergency Plan Implementing Procedure 5.7.22, Communications.

CNS OPERATIONS MANUAL EPIP PROCEDURE 5.7.9 ACTIVATION OF EOF	USE: REFERENCE EFFECTIVE: 10/30/01 APPROVAL: SORC OWNER: J. A. BEDNAR DEPARTMENT: EP

1. PURPOSE

[ ] 1.1 This procedure describes the sequence of events and requirements for the activation of the Emergency Operations Facility (EOF) in the event of an ALERT or higher classification.

[ ] 1.2 The topics addressed are:

[ ] 1.2.1 Functions of the EOF and its interface with both on-site and off-site emergency organizations.

[ ] 1.2.2 Activation criteria, including a roster of personnel and their associated responsibilities.

2. PRECAUTIONS AND LIMITATIONS

[ ] 2.1 Upon activation of the EOF, ensure Security is upgraded to allow access to only those personnel assigned to this facility.

[ ] 2.2 If Area Radiation Monitor or Continuous Air Monitor alarms, an area habitability survey should be conducted.

[ ] 2.3 In the event the EOF becomes uninhabitable (radiological, environmental, or other cause) or it cannot be powered from the 12.5 kV or EOFDG (temporary diesel), EOF personnel will be evacuated to and activate the Alternate EOF (AEOF). (Temporary Change)

[ ] 2.4 The EOF shall be activated within ~ 1 hour of declaration of an ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY declaration.

3. ACTIVATION AND OPERATION OF THE EOF

[ ] 3.1 Upon declaration of an ALERT or higher classification, EOF personnel shall report to the EOF. ERO positions assigned a Positional Instruction Manual (PIM), as defined below, shall obtain their PIM when reporting to the EOF and follow instructions contained within. The responsibilities of EOF ERO personnel are as follows:

[ ] 3.1.1 Emergency Director is responsible for:

[ ] 3.1.1.1 In all accident classifications, the Emergency Director is in charge of the Emergency Response Organization. He is the individual assigned the authority and responsibility to immediately and unilaterally initiate emergency response actions. The Emergency Director may <u>not</u> delegate the following:

[ ] a. Event declaration.

[ ] b. The decision to notify authorities responsible for off-site emergency measures.

[ ] c. The recommendation of protective actions to authorities responsible for off-site emergency measures.

[ ] 3.1.1.2 Verifying NPPD on-site and off-site emergency response functions are being performed in a timely manner.

[ ] 3.1.1.3 Ensuring adequate technical and logistical support is available to the station emergency organization.

[ ] 3.1.1.4 Ensuring continuity of emergency response resources.

[ ] 3.1.1.5 Ensuring interface functions between NPPD and governmental organizations are being properly executed per the respective Emergency Plans.

[ ] 3.1.2 EOF Director is responsible for:

[ ] 3.1.2.1 Ensuring the EOF provides the necessary off-site support to the CNS response organization.

[ ] 3.1.2.2 Ensuring contact with federal, state, and local officials is made to inform them of the current situation at CNS.

[ ] 3.1.2.3 Ensuring communications are established between the EOF, TSC, Control Room, and the Joint Information Center (JIC).

[ ] 3.1.2.4 Providing guidance to the Radiological Control Technical Information Coordinator and other key members of the EOF Staff and to inform the Emergency Director of significant activities in the EOF.

[ ] 3.1.3 Radiological Control Manager is responsible for:

[ ] 3.1.3.1 Directing the activities of the Radiological Assessment Supervisor, off-site survey teams, and the site boundary survey team (outside the Protected Area).

[ ] 3.1.3.2 Ensuring dose assessment is performed.

[ ] 3.1.3.3 Providing assistance to the Emergency Director in the formulation of Protective Action Recommendations.

[ ] 3.1.3.4 Monitoring radiological conditions and advising the Emergency Director on when to issue Potassium Iodide (KI).

[ ] 3.1.3.5 Interfacing with appropriate state and local dose assessment groups.

[ ] 3.1.4 Operations/EOP Advisor is responsible for:

[ ] 3.1.4.1 Providing technical assistance and operational information to the Emergency Director and/or EOF Director.

[ ] 3.1.4.2 Monitoring plant conditions in regard to EALs. Recommends changes in emergency classification to Emergency Director if warranted.

[ ] 3.1.4.3 Providing assistance to the Emergency Director in the formulation of Protective Action Recommendations.

[ ] 3.1.4.4 Monitoring event mitigation activities with respect to EOPs. Provides current and future status of EOP implementation.

[ ] 3.1.4.5 Assisting the Technical Information Coordinator by reviewing technical information for transmission to the JIC.

[ ] 3.1.5 Emergency Preparedness Coordinator is responsible for:

[ ] 3.1.5.1 Assisting with activation of the Emergency Response Facilities.

[ ] 3.1.5.2 Ensuring ERO personnel are performing their duties as defined by the appropriate EPIPs.

[ ] 3.1.6 Off-site Communicator is responsible for gathering and disseminating information to appropriate off-site agencies per the EPIPs.

[ ] 3.1.7 Radiological Assessment Supervisor is responsible for:

[ ] 3.1.7.1 Developing Protective Action Recommendations.

[ ] 3.1.7.2 Coordinating the activities of the Field Monitoring Teams.

[ ] 3.1.8 Logistics Coordinator is responsible for:

[ ] 3.1.8.1 Assisting in obtaining additional off-site support:

[ ] a. Personnel.

[ ] b. Equipment.

[ ] c. Arrange for specialized contractor assistance as required. Arrange for training of contractor personnel. Use CNS and Corporate resources to carry out these responsibilities (i.e., GE, Burns & Roe, INPO, etc.).

[ ] d. Developing a 24 hour schedule for EOF personnel.

[ ] e. Ensure financial support is available to the EOF. POs EP1001 through EP1050 are approved for use.

[ ] 3.1.8.2 Food/lodging/transportation support.

[ ] 3.1.9 Dose Assessment Coordinator is responsible for assisting the Radiological Assessment Supervisor by maintaining status boards and coordinating dose projections.

[ ] 3.1.10 Field Team Coordinator is responsible for movement and sampling activities of the CNS downwind survey field teams as directed by the Radiological Assessment Supervisor.

[ ] 3.1.11 Technical Information Coordinator is responsible for gathering technical information to be transmitted to the JIC.

[ ] 3.1.12 Clerical Coordinator is responsible for ensuring sufficient clerical support exists in the EOF to adequately support EOF personnel.

[ ] 3.1.13 Dose Assessment Clerk is responsible for operating the dose assessment model.

[ ] 3.1.14 EOF Logkeeper is responsible for maintaining EOF log.

[ ] 3.1.15 EOF Radiation Protection Pool Personnel are responsible for:

[ ] 3.1.15.1 Conducting plume-tracking activities.

[ ] 3.1.15.2 Performing in-field sampling activities as requested.

[ ] 3.1.15.3 Habitability surveys in the EOF as directed by the Radiological Assessment Supervisor.

4. EVACUATION OF EOF

[ ] **NOTE 1** - In the event the EOF must be evacuated, responsibilities will be formally turned over to the TSC.

[ ] **NOTE 2** - Evacuation of EOF to AEOF will be conducted using Procedures 5.7.9.1, 5.7.11, and 5.7.13 as guidelines.

[ ] 4.1 The EOF personnel shall be evacuated and EOF functions relocated if any of the following occur:

[ ] 4.1.1 It is determined that habitability in the facility cannot be maintained because of loss of EOF equipment or the safety of EOF personnel is jeopardized because of environmental concerns.

[ ] 4.1.2 The functions of the EOF as listed in Attachment 1 cannot be performed by either the established primary or backup methods.

[ ] 4.1.3 A major loss of equipment occurs and that loss would prevent personnel from performing the intended functions of the EOF.

1. DISCUSSION

1.1 FUNCTIONS OF EOF

1.1.1 Provides overall off-site management of NPPD emergency response and resources.

1.1.2 Provides coordination of off-site radiological assessment and recommendations for the protection of the public.

1.1.3 Provides coordination of off-site emergency response activities with Local, State, and Federal organizations.

1.1.4 Provides guidance and instructions to Off-Site Radiological Emergency Survey Teams.

1.1.5 Disseminates emergency status information to the Joint Information Center (JIC).

1.2 The EOF is located adjacent to the Security Building outside the Protected Area.

1.3 If emergency conditions dictate relocation from the EOF, emergency evaluation and coordination activities will be accomplished from the Alternate Emergency Operations Facility (AEOF). The AEOF is located in the town of Auburn, Nebraska, housed in the former Auburn National Guard Armory. Activation of the AEOF shall be accomplished per Procedure 5.7.9.1.

1.4 STAFFING OF EOF

1.4.1 Positional Instruction Manuals (PIMs) contain positional checklists for the activation and operation of the EOF. PIMs are numbered and controlled by the Emergency Preparedness Department, labeled by ERO position, and are located in the EOF.

1.4.1.1 The EOF is staffed with the following personnel:

a. *Emergency Director - PIM #01.

b. *EOF Director - PIM #02.

c. *Radiological Control Manager - PIM #03.

d. Operations/Emergency Operating Procedure Advisor - PIM #04.

e. Emergency Preparedness Coordinator - PIM #05.

f. *Off-Site Communicator - PIM #06.

g. *Radiological Assessment Supervisor - PIM #07.

h. Logistics Coordinator - PIM #08.

i. Dose Assessment Coordinator - PIM #09.

j. Technical Information Coordinator - PIM #10.

k. Clerical Coordinator - PIM #12.

l. Dose Assessment Clerk - PIM #13.

m. EOF Logkeeper - PIM #14.

n. EOF RP Pool - PIM #16.

o. Down Wind Driver - PIM #17

p. Field Team Coordinator - PIM #18.

* Minimum staff required for activation.

2. REFERENCES

2.1 CODES AND STANDARDS

2.1.1 NPPD Emergency Plan for CNS.

2.1.2 NUREG 0654, Revision 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.

2.2 PROCEDURES

2.2.1 Emergency Plan Implementing Procedure 5.7.1, Emergency Classification.

2.2.2 Emergency Plan Implementing Procedure 5.7.9.1, Activation of Alternate EOF.

2.2.3 Emergency Plan Implementing Procedure 5.7.11, Evacuation of Non-Essential Site Personnel.

2.2.4 Emergency Plan Implementing Procedure 5.7.13, Personnel Monitoring and Decontamination.

2.2.5 Emergency Plan Implementing Procedure 5.7.21, Emergency Equipment Inventory.

2.2.6 Emergency Plan Implementing Procedure 5.7.22, Communications.

2.3 MISCELLANEOUS

2.3.1 QA Audit 86-06.

2.3.2 NRC Inspection Report 89-35.

2.3.3 NRC Inspection Report 92-14, Accident Management Techniques.

2.3.4 QA Audit 93-05.

CNS OPERATIONS MANUAL EPIP PROCEDURE 5.7.12 EMERGENCY RADIATION EXPOSURE CONTROL	USE: REFERENCE ⊛ EFFECTIVE: 11/12/01 APPROVAL: SORC OWNER: S. C. REZAB DEPARTMENT: EP

1. PURPOSE

This procedure provides policy guidance, addresses required authorization, and sets forth maximum criteria for emergency radiation exposure control in the event emergency workers are required to exceed established occupational exposure limits.

2. PRECAUTIONS AND LIMITATIONS

[ ] 2.1 Protective clothing and/or respirators should be used as appropriate.

[ ] 2.2 Potassium Iodide (KI) tablets, if necessary, should be administered per Procedure 5.7.14.

[ ] 2.3 Administrative methods to minimize personnel exposure (such as ALARA) should remain in force to the extent consistent with timely rescue, corrective, and protective actions.

[ ] 2.4 Personnel shall wear dosimetry appropriate for anticipated exposure levels. These shall include:

[ ] 2.4.1 Direct reading dosimeter for whole body exposure.

[ ] 2.4.2 TLD dosimeter to permanently record whole body exposures.

[ ] 2.4.3 Extremity monitoring, if required, per Radiological Protection.

[ ] 2.5 Emergency exposures are allowed above 10CFR20 limits in an emergency situations as per Emergency Exposure Guidelines (NUREG 0654, 0737, ICRP Reports, and EPA Guides). Emergency Exposure Limits are contained in Attachment 1.

[ ] 2.6 Personnel authorized to receive emergency exposures should meet the following criteria:

[ ] 2.6.1 Personnel conducting corrective or protective actions or life-saving actions who may receive a TEDE in excess of occupational limits should be selected on a voluntary basis.

[ ] 2.6.2 Personnel shall be familiar with the hazards of any exposure received under emergency conditions.

[ ] 2.6.3 Declared pregnant woman shall not take part in these actions.

[ ] 2.6.4 Personnel should not have received previous emergency exposures. Emergency exposure should be limited to once in a lifetime.

[ ] 2.6.5 All occupational doses, including emergency doses, are required to be included as part of a worker's exposure history and hence can affect the worker's future allowable exposure.

3. REQUIREMENTS

[ ] **NOTE** - The examples listed below do not represent an absolute list. The existing situation may dictate additional conditions under which exceeding 10CFR20 limits may be warranted.

[ ] 3.1 The Emergency Director may authorize emergency exposures under the following conditions:

[ ] 3.1.1 LIFE-SAVING ACTIONS 25 REM OR MORE

[ ] 3.1.1.1 Rescue and/or treatment of personnel with life threatening injuries.

[ ] 3.1.1.2 Corrective activities to avoid extensive exposures to large populations.

[ ] 3.1.2 CORRECTIVE OR PROTECTIVE ACTIONS 10 REM TO 25 REM

[ ] 3.1.2.1 Providing first aid to less seriously injured personnel or in support of life saving activities.

[ ] 3.1.2.2 Undertaking corrective action on station equipment and systems to protect large populations from radiological exposure.

[ ] 3.1.3 ALL OTHER EMERGENCY CONDITIONS 5 REM

[ ] 3.1.3.1 Collection of in-plant airborne and liquid samples.

[ ] 3.1.3.2 Performing personnel decontamination.

[ ] 3.1.3.3 Use of the post-accident sampling system.

[ ] 3.1.3.4 Radiological monitoring (teams).

4. INSTRUCTIONS

[ ] 4.1 Only the Emergency Director has the authority to authorize exposures in excess of occupational limits.

[ ] 4.2 PERSONNEL EXPOSURE CONTROL

[ ] 4.2.1 Individuals shall not enter any area where dose rates are unknown or unmeasurable with instruments immediately available.

[ ] 4.2.1.1 If possible, the following survey instruments should be used:

[ ] a. High range portable survey instrument, 0 to 1000 rem/hr (0 to 10 Sv/hr); this should be the instrument of choice.

[ ] b. Low range portable survey instrument, 0 to 50 rem/hr (0 to 0.5 Sv/hr).

[ ] 4.2.1.2 METER USE

[ ] a. Perform a battery check.

[ ] b. Allow time for the meter to warm up, if required.

[ ] c. Check meter response with a check source.

[ ] d. Enter suspected radiation areas with the meter set on appropriate scale and switch, as necessary.

[ ] 4.3 Chemistry and Radiological Protection Coordinator shall:

[ ] 4.3.1 Obtain initial estimates of the radiation dose of exposed personnel as quickly as possible.

[ ] 4.3.2 Report any overexposures to the NRC per 10CFR20.2202 and 10CFR20.2203.

[ ] 4.3.3 Update existing Special Work Permits once station conditions have stabilized and further changes to radiological conditions are not expected or the plant has entered recovery operations per Procedure 5.7.25.

GUIDE ON DOSE LIMITS FOR WORKERS PERFORMING EMERGENCY SERVICES

DOSE LIMIT (rem)[1]	ACTIVITY	CONDITION
5	All	N/A
10	Protecting valuable property	Lower Dose Not Practicable
25	Life Saving or Protection of Large Populations	Lower Dose Not Practicable
> 25	Life Saving or Protection of Large Populations from Extensive Exposure	Only on a Voluntary Basis to Persons Fully Aware of the Risks Involved (see Tables 2-3 and 2-4 of EPA 400)

[1] Sum of external effective dose equivalent and committed effective dose equivalent to non-pregnant adults from exposure and intake during an emergency situation. Workers performing services during emergencies should limit dose to the lens of the eye to 3 times the listed value and doses to any other organ (including skin and body extremities) to 10 times the listed value. These limits apply to all doses from an incident, except those received in unrestricted areas as members of the public during the intermediate phase of the incident (refer to Chapters 3 and 4 of EPA 400).

1. DISCUSSION

1.1 Under emergency conditions it may become necessary for emergency workers to receive exposures in excess of occupational limits established by 10CFR20. Emergency dose exposure limits (guidance) are defined for emergency workers performing several activities. These exposure limits are listed on Attachment 1.

1.2 Only the Emergency Director has the authority to authorize exposures in excess of occupational limits. These exposures are only justifiable if it is determined that benefits to be achieved are commensurate with the projected dose and every reasonable effort is being made to maintain emergency workers doses As Low As Reasonably Achievable (ALARA).

2. REFERENCES

2.1 TECHNICAL SPECIFICATIONS

2.1.1 Section 5.4, Procedures.

2.2 CODES AND STANDARDS

2.2.1 NPPD Emergency Plan for CNS.

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

2.2.3 NUREG 0737, November 1980, Emergency Exposure Limits.

2.2.4 NCRP Report 39, 1971, Basic Radiation Protection Criteria.

2.2.5 ICRP Report 59, Permissible Dose for Internal Radiation Working Breathing Rate.

2.2.6 Environmental Protection Agency EPA 400-4-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, May 1992.

2.2.7 10CFR20.

2.3 PROCEDURES

2.3.1 Emergency Plan Implementing Procedure 5.7.14, Stable Iodine Thyroid Blocking (KI).

2.3.2 Emergency Plan Implementing Procedure 5.7.25, Recovery Operations.

CNS OPERATIONS MANUAL EPIP PROCEDURE 5.7.22 COMMUNICATIONS	USE: REFERENCE EFFECTIVE: 11/1/01 APPROVAL: SORC OWNER: J. G. KELSAY DEPARTMENT: EP

1. PURPOSE

This procedure provides instructions to station Emergency Response personnel when they need to operate communications equipment to contact the various federal, state, and local authorities, Emergency Repair Teams, Emergency Response Facilities, or other on-site and off-site support groups during station emergencies.

2. REQUIREMENTS

[ ] 2.1 Ensure following equipment and materials are available, as needed:

[ ] 2.1.1 Nebraska Public Power District Northern Telecom SL1-MS PBX with rotary trunks to the ALLTEL Brownville Central Office.

[ ] 2.1.2 Station Intercom System (Gaitronics).

[ ] 2.1.3 Sound Power System.

[ ] 2.1.4 Alternate Intercom System.

[ ] 2.1.5 CNS On-Site Digital Cell Phone System

[ ] 2.1.6 Federal Telecommunications System (FTS 2001).

[ ] 2.1.7 NPPD Microwave Network.

[ ] 2.1.8 Local telephones (ALLTEL Communications).

[ ] 2.1.9 NAWAS (National Warning System).

[ ] 2.1.10 CNS State Notification Telephone System.

[ ] 2.1.11 Site 450 MHZ Base Station Repeaters.

[ ] 2.1.12 Cross-band radio communications with Nemaha County Sheriff.

[ ] 2.1.13 Radio Paging System.

[ ] 2.1.14 CNS Automated Notification System (CNS ANS).

[ ] 2.1.15 District State-Wide Radio System (48.180 and 47.960 MHZ).

[ ] **NOTE 1** - Communication equipment located in each Emergency Response Facility is outlined in Attachment 1.

[ ] **NOTE 2** - The following paragraphs are intended to provide a quick reference for utilization of any CNS communications equipment.

3. CNS NORTHERN TELECOM SL1-MS PBX

[ ] 3.1 A Northern Telecom SL1-MS PBX provides telephone service to the Control Room, TSC, OSC, EOF, and other site areas. This is the primary on-site communications system. The extension numbers used during an emergency are contained in the Emergency Telephone Directory.

[ ] 3.2 If the PBX should lose AC power, it will automatically switch to backup battery power. These batteries will power the PBX for ~ 6 hours. All extensions will continue to operate in their normal fashion.

[ ] 3.3 In the event of a total failure of the PBX, the system is designed to connect several hard-wired extensions, designated as bypass telephones, directly to Central Office lines.

[ ] 3.4 In the event even the bypass telephones are inoperative, other means of communication shall be attempted. It may become necessary to relay messages via radio, NSP/EOC Hotline, NAWAS, or microwave.

[ ] 3.5 By dialing the digit 9 + 1 on selected PBX stations, the user is connected in to the commercial telephone network. The telephone numbers of Emergency Response Facilities and personnel are contained in the Emergency Telephone Directory.

4. GAITRONICS INTERCOM SYSTEM

[ ] **NOTE** - This intercom system is utilized for communications throughout the station.

[ ] 4.1 SINGLE CHANNEL STATION OPERATION

[ ] 4.1.1 Depress and hold the paging button while making the announcement.

[ ] 4.1.1.1 When paging a person, page them to LINE 1.

[ ] 4.1.1.2 General and Emergency announcements may be made while the party line is in use.

[ ] 4.1.2 Release the paging button to carry on a party line conversation.

[ ] 4.1.3 Use the handsets like a normal telephone. Use common courtesy and do not attempt to talk while someone else is talking.

[ ] 4.2 FIVE CHANNEL STATION OPERATION

[ ] 4.2.1 To use the system, first select a clear channel for use.

[ ] 4.2.2 Depress and hold the paging button while making the announcement.

[ ] 4.2.2.1 When paging a person, page them to the appropriate line.

[ ] 4.2.2.2 General and Emergency announcements may be made while the party lines are in use.

[ ] 4.2.3 Release the paging button to carry on a party line conversation.

[ ] 4.2.4 Use the handsets like a normal telephone. Use common courtesy and do not attempt to talk while someone else is talking.

[ ] 4.3 EMERGENCY SIGNALS

[ ] 4.3.1 Select which signal to use:

[ ] 4.3.1.1 Fire alarm (----------) distinct pulse tone.

[ ] 4.3.1.2 Emergency alarm (———) distinct steady tone.

[ ] 4.3.1.3 All clear (∩) one steady up and down tone.

5. SOUND POWER SYSTEM

[ ] 5.1 USING SYSTEM A OR B

[ ] 5.1.1 Select the sound power jacks that are to be used and plug in headsets or handsets.

[ ] 5.1.2 Position the selector switch for each jack to the same channel, 1 through 6. Those headsets or handsets are on a single party line type hookup.

[ ] 5.1.3 Other headsets or handsets may be plugged into System A or B and set to any of the other not in use channels. Up to six separate party line conversations can be in progress at one time.

[ ] 5.2 USING INTERCONNECTED SYSTEMS A AND B

[ ] 5.2.1 Place the right-hand selector switch in each System A and B panels to the same number, 1 through 6, and all the jacks in each system on that selected number are on a party line.

[ ] 5.2.2 Repeat the above using the left-hand selector switch. Systems A and B can have two interconnections at one time.

[ ] 5.3 CONTROL ROOM SOUND POWER MONITOR

[ ] 5.3.1 Select the in-plant sound power to be utilized to Channel 1.

[ ] 5.3.2 With both handsets in their cradles, the monitor will receive all communications from all in-plant sound powers on Channel 1.

[ ] 5.3.3 When either handset is lifted, the speaker is disabled and the handset operates as all other sound power handsets.

6. ALTERNATE INTERCOM SYSTEM

[ ] 6.1 The Alternate Intercom System provides an alternate in-plant communications network utilizing the stations backup tone commander telephone PBX System. This system has battery backup.

[ ] 6.2 The location of Alternate Intercom Extensions and their numbers are:

LOCATIONS	ACCESS NUMBER
Control Room	43
Alternate OSC	44
TSC (Operations)	41
TSC (Engineering)	35
OSC	42
Hot Chemistry Lab	47
EOF (Dose Assessment)	48
EOF (Information Authentication Center)	31
EOF (Operations Table)	24
JIC	22

[ ] 6.3 OPERATION OF THE ALTERNATE INTERCOM SYSTEM

[ ] 6.3.1 Terminal equipment (the phones themselves) are light grey in color.

[ ] 6.3.2 Pick up the handset and punch the two-digit number of the desired extension. Hang up the handset when done. A list of extension numbers is posted on each phone.

7. CNS ON-SITE DIGITAL CELL PHONE SYSTEM

[ ] 7.1 The CNS on-site digital cell phone system is a pico-cellular digital cordless telephone system that is connected to the CNS NORTHERN TELECOM SL1-MS PBX. It uses a radio access system and enables the users to make and receive telephone calls anywhere in the area that is covered by the system base stations.

[ ] 7.2 The system consists of an radio exchange unit (RE) connected to the PBX, several base stations, and several portable telephones. The coverage is established by means of the pico-cellular network consisting of a number of base stations connected to the RE. By means of handovers from pico-cell to pico-cell, the user can roam within the covered area while maintaining the call without degradation of quality.

[ ] 7.3 All functions that are available on a normal wired analog telephone connected to the PBX are also available on the cell phone system. The cell phones themselves are similar in operation to other commercially available cordless/cellular telephones. Built-in voice encryption and phone authentication ensures privacy and secure communications.

8. FEDERAL TELECOMMUNICATIONS SYSTEM (FTS 2001)

[ ] 8.1 The FTS 2001 System is a standard commercial telephone service and requires no complicated operating instructions. It is independent of all other telephone service and is installed and operated by the NRC. It provides a separate government communications network for all essential communication functions. This avoids the problem of heavy traffic loads, that in many emergency cases, overload local telephone company switching capabilities. Some of the FTS 2001 emergency communications functions are:

[ ] 8.1.1 EMERGENCY NOTIFICATION SYSTEM (ENS)

[ ] 8.1.1.1 The primary number, when dialed, connects CNS to the NRC Operations Center. Designated numbers are listed on the ENS telephones located in the Control Room, TSC, and EOF.

[ ] 8.1.1.2 Alternate communication to the NRC Headquarters is provided by the Health Physics Network and the commercial PBX extensions which also have emergency bypass capabilities as explained in Steps 3.3 and 3.4.

[ ] 8.1.2 HEALTH PHYSICS NETWORK (HPN)

[ ] 8.1.2.1 The primary number, when dialed, connects CNS to the NRC Operations Center. Designated numbers are listed on the HPN telephones located in the TSC and EOF.

[ ] 8.1.2.2 Backup for this network is provided by the commercial PBX extensions which also have emergency bypass capabilities as explained in Steps 3.3 and 3.4.

[ ] 8.1.3 EMERGENCY RESPONSE DATA SYSTEM (ERDS)

[ ] 8.1.3.1 This is a line over which the raw reactor parametric data is transmitted from the site to the NRC.

[ ] 8.1.3.2 ERDS is activated in the Control Room within 1 hour of the declaration of an ALERT or higher emergency classification using the PMIS START/STOP Menu.

[ ] 8.1.4 Other communication lines established between the NRC Site Team representatives and the NRC Base Team.

[ ] 8.1.4.1 Reactor Safety Counterpart Link.

[ ] 8.1.4.2 Protective Measures Counterpart Link.

[ ] 8.1.4.3 Management Counterpart Link.

[ ] 8.1.4.4 NRC Local Area Network Access.

9. MICROWAVE TELEPHONE NETWORK

[ ] **NOTE** - The General Office in Columbus may be reached on this network. The desired telephone numbers are found in the Emergency Telephone Directory.

[ ] 9.1 This NPPD Private Switching Network is accessed by dialing the digit 6 on any PBX extension. When the dial tone is heard, the desired telephone number may be dialed.

[ ] 9.2 Backup communications for this network is provided by the commercial telephone system.

10. LOCAL TELEPHONES (CENTRAL OFFICE LINES - ALLTEL COMMUNICATIONS)

[ ] 10.1 These are direct telephone lines to the ALLTEL Communications Brownville Central Office with extensions located in the Control Room, TSC, and EOF. Calls to Brownville and local, dial 7 digit number. Other calls are 1 + 10 digit number. These phones are plainly labeled with an 825 and the 4 digit individual extension number.

[ ] 10.1.1 One central office line is located in the Control Room.

[ ] 10.1.2 One central office line is located in the TSC.

[ ] 10.1.3 Two central office lines are located in the EOF Dose Assessment Area.

[ ] 10.2 There are also telephones which are designed to automatically bypass the CNS PBX Switch in a power-fail situation. These "Bypass" telephones are designed to connect to central office lines and act in the same manner as the three lines listed above. The locations of these bypass telephones are listed below:

C.O. Line Number	Location	Extension
825-3811	Access Control	Normally inactive
825-3821	SAS 5276	
825-3831	CAS	5374
825-3841	Switchboard	Normally inactive
825-3851	Admin 1st Floor	Normally inactive
825-3861	Control Room	5614
825-3871	Plant Manager's Office	Normally inactive

11. NATIONAL WARNING SYSTEM (NAWAS)

[ ] 11.1 This party-line network is operationally controlled by Attack Warning Officers at the National Warning Centers of the Federal Emergency Management Agency (FEMA).

[ ] **NOTE** - Detailed instructions for use of this network are posted near the telephone set located in the Control Room.

[ ] 11.1.1 Lifting the handset connects to the system.

[ ] 11.1.2 The push-to-talk button on the inside face of the handset shall be pressed to transmit. Because it is a party line, conversations should be of short duration.

12. CNS STATE NOTIFICATION TELEPHONE SYSTEM

[ ] 12.1 If a declared emergency takes place at CNS, emergency notifications are made to the State of Nebraska, State of Missouri, Atchison County, Missouri, and Nemaha County, Nebraska, using the CNS State Notification Telephone System.

[ ] 12.2 CNS State Notification Telephones are located in the Control Room, TSC, and EOF.

[ ] 12.3 The CNS State Notification Telephone System is a conference-calling system. When the handset to this hotline is picked up and the "Group Call" button is pushed, dedicated telephones will automatically ring at Nebraska State Patrol, Missouri State Patrol, Atchison County Sheriff's Department, and Nemaha County Sheriff's Department. The utilization of law enforcement agencies as initial points of contact provides for 24 hour coverage. The dedicated lines listed also have extension lines which ring at the following facilities respectively: Nebraska State Civil Defense EOC, Missouri State Emergency Management EOC, Atchison County EOC, and Nemaha County EOC. Once the EOCs become operational, notifications may be made using the extension lines at the EOCs with concurrence between the respective EOC and law enforcement agency.

13. SITE 450 MHZ BASE STATION REPEATERS

[ ] 13.1 CNS has two in-house 450 MHZ repeaters designated as Base 1 and Base 2. These stations operate on different frequencies. However, all remote control points, portable and mobile units, are equipped for selecting and utilizing either system. Specific groups are assigned a specific base station to reduce interference.

[ ] 13.2 Normal operating procedure is for Operations to monitor F1. However, when Operations in involved in communication with Maintenance, Fire Protection, Radiological Protection, or other Operations personnel, Base 2, F3, shall be utilized.

[ ] 13.3 Operation of the Base 1 repeater, remote control point, portable and mobile units, can be in any of following modes:

[ ] 13.3.1 OPERATION OF BASE 1 FROM REMOTE CONTROL POINTS

[ ] 13.3.1.1 Remote control points are located in the Control Room, CAS, SAS, Security, EOF, AEOF, OSC, and TSC. All control points can control Base 1 by selecting Base 1 on their console and can communicate to all mobile and portable units.

[ ] 13.3.2 OPERATION OF THE PORTABLE AND MOBILE UNITS (F1 FUNCTION)

[ ] 13.3.2.1 All mobile and portable units can communicate with the remote control points connected to Base 1 by placing the frequency selecting switch in the F1 position. Their transmission will be received at the Base 1 receiver. All remote control points will receive the transmission. In addition, the transmission will be simultaneously retransmitted by Base 1 and all other mobile and portable units will receive it.

[ ] 13.3.3 OPERATION OF DIRECT COMMUNICATIONS BETWEEN THE PORTABLE AND MOBILE UNITS BY BYPASSING BASE 1 (F2 FUNCTION) COMMONLY KNOWN AS "TALK AROUND"

[ ] 13.3.3.1 All mobile and portable units are capable of communicating directly to each other by selecting the F2 position on the frequency selection switch. This operation bypasses the Base 1 receiver. Consequently, the message is not heard by the remote control points and is not simultaneously retransmitted by Base 1.

[ ] 13.4 Operation of the Base 2 repeater, remote control point, portable and mobile units, can be in any of the following modes:

[ ] 13.4.1 OPERATION OF BASE 2 FROM REMOTE CONTROL POINTS

[ ] 13.4.1.1 Remote control points are located in the Control Room, CAS, SAS, Security, EOF, AEOF, OSC, and TSC. All control points can control Base 2 by selecting Base 2 on their console and can communicate to all mobile and portable units.

[ ] 13.4.2 OPERATION OF THE PORTABLE AND MOBILE UNITS (F3 FUNCTION)

[ ] 13.4.2.1 All mobile and portable units can communicate with the remote control points connected to Base 2 by placing the frequency selecting switch in the F3 position. Their transmission will be received at the Base 2 receiver. All remote control points will receive the transmission. In addition, the transmission will be simultaneously retransmitted by Base 2 and all other mobile and portable units.

[ ] 13.4.3 OPERATION OF DIRECT COMMUNICATIONS BETWEEN THE PORTABLE AND MOBILE UNITS BY BYPASSING BASE 2 (F4 FUNCTION) COMMONLY KNOWN AS "TALK AROUND"

[ ] 13.4.3.1 All mobile and portable units are capable of communicating directly to each other by selecting the F4 position on the frequency selection switch. This operation bypasses the Base 2 receiver. Consequently, the message is not heard by the remote control points and is not simultaneously retransmitted by Base 2.

[ ] 13.5 Under normal operating conditions, group assignments for base station repeaters will be as follows:

[ ] **NOTE 1** - If one of the base station repeaters should fail, all personnel shall be instructed to switch operations to the functional system.

[ ] **NOTE 2** - Cross-channel communication with local law enforcement can be accomplished by encoding Base 1 or Base 2. The Auburn Sheriff's Department has a monitor receiver for each base.

[ ] **NOTE 3** - Paging of off-duty personnel can only be accomplished via Base 2.

[ ] 13.5.1 Base 1 (F1 & F2) - Security, Mobile Units, Cross Band, and Encoding.

[ ] 13.5.2 Base 2 (F3 & F4) - Maintenance, Operations, Paging, Fire, and RP.

14. CROSS-BAND RADIO COMMUNICATIONS WITH NEMAHA COUNTY SHERIFF'S OFFICE

[ ] 14.1 A cross-band, two-way radio communications system exists between CNS and the Nemaha County Sheriff's Office. Cross-band means the Sheriff's Office has monitor receivers on CNS's frequency Base 1 and Base 2, and CNS has a monitor receiver on the Sheriff's Office frequency.

[ ] **NOTE** - If Base 1 is selected for cross-band operation, only the receiver which is on it's frequency shall respond at the Sheriff's Office. This also applies to Base 2.

[ ] 14.1.1 The monitor receivers at the Nemaha County Sheriff's Office are coded and remain inoperative until they receive a code signal from CNS. The CNS monitor receiver is normally turned off. This receiver should be turned on prior to any attempt to test or communicate with the Nemaha County Sheriff's Office. The coding on the two monitor receivers at the Nemaha County Sheriff's Office are identical for CNS's Base 1 and Base 2. Only the receiver frequencies are different. The determination of which receiver is activated is determined by which base at CNS is selected for cross-band operation.

[ ] 14.2 This cross-band system can also be used for emergency and medical communications. The Nemaha County Sheriff's Office is equipped with the emergency medical frequencies. If this type of communication is necessary, establish voice contact with the Nemaha County Sheriff's Office as described above. When communication has been established, request the Sheriff's Office to relay messages between you and the emergency vehicle. CNS's ambulance is also equipped with radio communication directly with the Sheriff's Office and/or hospitals equipped with radios on the emergency medical frequency.

[ ] 14.2.1 To establish radio communications with the Nemaha County Sheriff's Office:

[ ] 14.2.1.1 Turn on the CNS's monitor receiver and adjust the volume and select which base station you wish to utilize.

[ ] 14.2.1.2 Depress Code buttons 1 and 2, in that order, on the paging encoder. The code selected will appear on the LED readout on the encoder.

[ ] 14.2.1.3 Depress and release the P button on the encoder. The coded signal will automatically be transmitted to Auburn.

[ ] 14.2.1.4 When the red light on the remote control console goes out, voice communications between the Nemaha County Sheriff's Office and CNS has been established and normal radio operating procedures can be utilized.

15. RADIO PAGING SYSTEM OPERATION

[ ] 15.1 RADIO PAGING SYSTEM OPERATION

[ ] 15.1.1 CNS leases digital pagers and radio paging services from a telecommunications company. Pagers are issued to various Management and Emergency Response personnel at CNS and other NPPD locations. Pagers can be activated from any touch-tone phone, on or off-site. Any call-back number may be displayed on the pager.

[ ] 15.1.2 TO SEND AN INDIVIDUAL PAGE

[ ] 15.1.2.1 Call the telephone number associated with the individual pager.

[ ] 15.1.2.2 A list of telephone numbers for individual pagers can be found in the TSC or EOF.

[ ] 15.1.2.3 A computer voice will ask you to enter your numeric message after the tone. If necessary, leave a 3-digit event code along with the call-back number.

[ ] 15.1.2.4 A table of 3-digit event codes can be found in Step 15.4.

[ ] 15.1.3 TO SEND A GROUP PAGE

[ ] 15.1.3.1 An All-Call group page is usually activated by the CNS ANS (refer to Section 16). However, there is a "backup" method which allows the pagers to be activated by any touch-tone telephone. This backup method is password protected. Refer to Procedure 5.7.6 for further instructions.

[ ] 15.1.3.2 Call the telephone number associated with the specific group of pagers.

[ ] 15.1.3.3 A list of telephone numbers for specific groups of pagers can be found in the "Pager" section of the Emergency Telephone Directory.

[ ] 15.1.3.4 A computer voice will ask you to enter your numeric message after the tone. If necessary, leave a 3-digit event code along with the call-back number.

[ ] 15.1.3.5 A table of 3-digit event codes can be found in Step 15.4.

[ ] 15.2 PAGER INFORMATION

[ ] **NOTE** - The following information applies to the Motorola "Bravo" digital pagers issued to most CNS employees. Some CNS employees, due to special circumstances, are issued Motorola "Advisor Gold" Alpha-Numeric pagers for which the following information does not apply. The CNS EP Department keeps printed operational information and instructions for use of both types of pagers on file in the EP office area for those individuals who request a copy.

[ ] 15.2.1 The pager ON/OFF switch is located on the side of the pager. Slide switch up all the way for audible paging or half way up for vibration mode.

[ ] 15.2.2 The pager will perform a "self-test" when first turned on. Eights will be displayed, it will beep, and the small red light will flash. If this does not occur, replace the battery and try again.

[ ] 15.2.3 The display on the pager should always show the current time unless an unacknowledged page is in memory. In the audible mode, a small speaker symbol is also displayed. When in the vibrate mode, this symbol is absent. If there is an unacknowledged page stored in memory, the pager will "chirp" every 3 minutes until it is acknowledged.

[ ] 15.2.4 The black button is used to clear the pages in memory, lock pages in memory, or reset the pager clock.

[ ] 15.2.5 See the informational leaflet distributed with the pagers for more information concerning pager features.

[ ] 15.2.6 Replace the battery in the pager with an "AA" battery anytime it displays "LOW CELL". Batteries can be obtained at the CNS switchboard. The time displayed on the pager will have to be reset upon each change out of a pager battery.

[ ] 15.3 RESPONDING TO A PAGE

[ ] 15.3.1 A pager will activate either audibly or by vibration, but only if it's turned on. It will also display the message "1 PAGE".

[ ] 15.3.2 Press the gray "UP ARROW" button to display the page. The most recent page is displayed first. A second press of the gray button will show the time the page was received. As many as 16 pages may be stored in the pager's memory. Every other time the gray button is depressed, the pager displays the next oldest page. If the register of pages is empty, "NO PAGES" is displayed. A page will remain in the memory register until cleared or overwritten.

[ ] 15.3.3 The pager may also display a Group 1, Group 2, Group 3, or Group 4. This group display identifies that the pager has been activated simultaneously with other pagers that are assigned to that particular group. The group display is informational only and has no bearing on response. Press the Grey button to scroll to the next screen and review the display digit code and call-back number.

[ ] 15.3.3.1 Group 1 is Emergency Preparedness Staff pagers.

[ ] 15.3.3.2 Group 2 is On-Shift Station Operator pagers.

[ ] 15.3.3.3 Group 3 is Emergency Medical Technician pagers.

[ ] 15.3.3.4 Group 4 is all EP Department Issued pagers (All-Call for Emergency Response).

[ ] 15.3.4 Pager display codes in effect are described in the table in Step 15.4. These informational codes appear as the first three (3) digits of the display and can be any combination of digits defined in the table. The informational codes are followed by a seven digit telephone number which should be called immediately.

[ ] 15.3.4.1 EXAMPLE: 211-8255560. This would indicate an Alert declaration with Emergency Response Facility Activation and responders to the plant should use their normal driving route.

[ ] 15.3.5 Return a call back to the telephone number displayed on the pager after the 3-digit code. Normally, if an emergency has been declared, the call-back number will be to the CNS ANS.

[ ] **NOTE 1** - Reference the laminated, wallet sized, Pager Information Card for immediate help after a page if codes are displayed.

[ ] **NOTE 2** - If no telephone number appears, contact the CNS Control Room by dialing (402) 825-5271.

[ ] **NOTE 3** - All telephone calls to CNS from any telephone exchange other than Brownville will require dialing Area Code: "402".

[ ] 15.4 PAGER CODES AND INFORMATION/ACTION SUMMARY

X CODE	Y CODE	Z CODE
0 - DRILL	0 - No Facilities are being Activated, Standby.	0 - Do not Respond to Plant.
1 - NOUE	1 - TSC/OSC/EOF are being activated.	1 - Use your Normal Route to Plant.
2 - ALERT		2 - Use South Access Road to Plant.
3 - SITE AREA EMERGENCY		3 - Use North Access Road to Plant.
4 - GENERAL EMERGENCY		
5 - DISREGARD PREVIOUS PAGE		

16. CNS AUTOMATED NOTIFICATION SYSTEM (CNS ANS)

[ ] 16.1 The CNS Automated Notification System (CNS ANS), located in the EOF, is a PC loaded with software provided by Dialogics Communications Inc. The system has access to multiple inbound and outbound telephone lines. The system is interactive with the user, similar to the "Voice Mail" system used at CNS. There is a system printer attached and it also has FAX and Modem capabilities. A variety of reports can be generated at the system control console. Reports can be printed to any location having a FAX machine or LAN printer.

[ ] 16.1.1 The system has been programmed by the Emergency Preparedness Staff with several pre-defined scenarios which cover the spectrum of Emergency Classifications and the associated ERO response expected. The system is activated by the Emergency Director according to instructions provided in Procedure 5.7.6. When a specific scenario is queued and executed, the CNS ANS will activate all pagers that are issued from CNS.

[ ] 16.1.2 Simultaneously, the system will start to place outbound telephone calls to non-pager carriers, while accepting inbound calls from pager carriers calling back in response to the global page. The CNS ANS will provide the responder with information concerning the emergency event and expected response. The system will also request specific information from the responder in the form of yes or no answers and numbers. For the system to be able to interact with responders, it is necessary for the responder to have a telephone capable of producing DTMF tones. Many telephones of this type are known as "pulse-tone switchable". This is because they have a pulse/tone switch that allows their operating mode can be adjusted, depending upon the type of telephone service that is provided by the local telephone company. The switch in this type of phone must be in the tone position when interfacing with the CNS ANS.

[ ] 16.1.3 The system has been programmed to prompt the System Operator to record an "Current Scenario Message". In most cases, it is at the discretion of the Emergency Director to determine if such a message is necessary. If an "Current Scenario Message" is recorded, this message shall be delivered immediately after a prerecorded message. An "Current Scenario Message" should contain information such as the applicable EAL, information the responder needs to know regarding his safety prior to arriving at CNS or specific information that is relevant to the emergency.

[ ] 16.1.4 The system is currently programmed to print reports at the Emergency Response Facilities. These reports identify the personnel who are responding to the plant to fill identified positions and their approximate times of arrival. These reports will be used by ERO Facility Management to evaluate the success of the call-in of ERO to an event.

[ ] 16.1.5 Activation or cancellation of any of the system scenarios can be accomplished via any touch-tone telephone by calling into the system extension 8579 and entering a valid password. System control is accomplished from the control terminal in the EOF. All system functions and maintenance are password protected to prevent accidental or unauthorized activation.

[ ] 16.2 RESPONDING TO THE CNS ANS BY TELEPHONE

[ ] 16.2.1 When the CNS ANS calls out to CNS personnel at home, the call flow is virtually identical to when personnel call in to it. The CNS ANS will not ask to speak to a specific individual. It will identify itself, prompt for the entry of a security badge number, and then wait several seconds for the information to be entered. If no information is entered, it will prompt again and wait. If after three attempts, no information is entered, the system shall hang up and call other personnel.

[ ] 16.2.2 When calling in to the CNS ANS, please be aware that the CNS ANS has access to a limited number of inbound lines and there are hundreds of pagers issued at CNS. It will take several minutes for the system to process all calls. Be patient and if necessary, make more than one attempt to call back. For notification to be completely successful, you **MUST** make contact with the system. Your call will ring through when any one of the lines are open. If you keep getting a busy signal, wait a minute before calling again.

[ ] 16.2.3 Follow the instructions provided by the CNS ANS. The CNS ANS will ask for your **4-digit** security badge number that you request from Security Access Control. Be sure to include the zeros in your number (i.e., 0008, 0027, 0276, 2080, etc.). After you enter the 4th digit, push the # key.

[ ] 16.2.4 All information requested by the system is verified after entry. This is done by a repeat back of the information and then the request to enter a **9** for **YES** or **6** for **NO** as to the correctness of the information. If you provide wrong information, realize it, and then enter a 6, the system will erase the information and prompt for the information again.

[ ] 16.2.5 Do not hang up the telephone until you hear the system say, "Thank you, Goodbye". Only then, will you know that you have provided all

the necessary information, and heard all the information that needs to be provided to you.

17. DISTRICT STATE-WIDE RADIO SYSTEM (48.180 AND 47.960 MHZ) (F1 AND F2 RESPECTIVELY)

[ ] 17.1 CNS has a base station which operates on the District's state-wide radio system frequencies.

[ ] 17.2 This station is controlled from remote control consoles located at the EOF, AEOF, OSC, and Control Room.

[ ] 17.3 This station is capable of communicating with any other base station, mobile, or portable units which are equipped to operate on the state-wide system.

18. GOVERNMENT EMERGENCY TELECOMMUNICATIONS SERVICE (GETS)

[ ] 18.1 GETS should be used during a National Security and Emergency Preparedness event that causes congestion and blockage in the public switched telephone network. Refer to Attachment 2, Governmental Emergency Telecommunications Service (GETS), for GETS usage instructions.

ATTACHMENT 1	EMERGENCY RESPONSE FACILITY COMMUNICATION EQUIPMENT

COMMUNICATIONS SYSTEM	OSC	EOF	TSC	CR	JIC	AEOF	AOSC	COMMENTS
1. Telephone PBX	X	X	X	X	X	X	X	Off-site Dial "9 + 1" Primary on-site/off-site communications
2. Station Intercom System "Gaitronics"	X	X	X	X			X	Other extensions available in various areas throughout the station
3. Sound Power System			X	X			X	Other outlets available in various areas throughout the station
4. Alternate Intercom System	X	X	X	X	X		X	Extensions available in other areas of the plant
5. FTS 2001 ENS, HPN, EROs, NRC Site Team phones		X	X	X				Dial telephone number listed on top of telephone
6. NPPD Microwave Network	X	X	X	X	X	X	X	District Wide
7. Telephone extensions to local exchange		X	X	X	X	X		None
8. NAWAS				X				None
9. CNS State Notification Telephone System		X	X	X				Hotline to states and counties
10. Site Base Station Repeater Consoles	X	X	X	X		X		None
11. Cross-Band Encoding				X				None
12. Radio Paging System	X	X	X	X	X	X	X	Leased Service
13. District State-Wide Radio System	X	X		X		X		District Wide
14. CNS On-Site Digital Cell Phone System	X	X	X	X			X	Functional and Available at Various Plant Locations
15. CNS Automated Notification System	X	X	X	X	X	X	X	Used for call-in of ERO personnel

ATTACHMENT 2	GOVENMENT EMERGENCY TELECOMMUNICATIONS SERVICE (GETS) INSTRUCTIONS

NOTE 1 - GETS should be used during a National Security and Emergency Preparedness event that causes congestion and blockage in the public switched telephone network.

NOTE 2 - The Control Room GETS card is located in the Shift Supervisor's cubicle in the CNS Control Room.

NOTE 3 - The EOF GETS card is located in the Emergency Preparedness Coordinator's Position Instruction Manual (PIM).

To place a call utilizing GETS:

1. Dial 9-1-710-627-4387.

    - Alternate number (to be used if you cannot complete the call using the main GETS number) - 9-1-888-288-4387.

2. After the short dial tone, enter your PIN located on your GETS card.

NOTE - Do NOT dial a 9-1 before entering your destination number's Area Code and Telephone Number. This will cause failure in connecting to the destination number.

3. When prompted, dial your destination number (Area Code + Telephone Number).

GETS Assistance:

1. Dial 9-1-800-818-GETS (4387) to obtain user assistance or report trouble at any time. This line is available 24 hours a day.

1. DISCUSSION

1.1 The Emergency Response staff has available to it various types of communications equipment which allows for effective communications to both on-site and off-site groups.

1.2 Required notification of off-site groups is accomplished as outlined in Procedure 5.7.6. Communications with on-site or off-site groups is the responsibility of the Emergency Director, through cognizant individuals in each Emergency Response Facility. The basic philosophy is to minimize outside distractions to the Emergency Director so he can devote full attention to managing emergency mitigation and response activities.

2. REFERENCES

2.1 CODES AND STANDARDS

2.1.1 CNS Emergency Telephone Directory.

2.1.2 NPPD Emergency Plan for CNS.

2.1.3 NUREG 0654, Revision 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.

2.2 PROCEDURES

2.2.1 System Operating Procedure 2.2.4, Communications Systems.

2.2.2 Emergency Plan Implementing Procedure 5.7.6, Notification.