

EMERGENCY PLAN IMPLEMENTING PROCEDURES
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REVIEWED BY

M L March

APPROVED BY

DML

1.0 APPLICABILITY

This procedure is to be used as guidance in determining the proper emergency classification listed below in order to activate the appropriate level of response from the Kewaunee Nuclear Power Plant (KNPP) emergency response organization and offsite response organization.

- 1.1 Unusual Event - Events in progress or have occurred which indicate a potential degradation of the level of safety of the plant. No releases of radioactive material requiring offsite response or monitoring are expected.
- 1.2 Alert - Events in progress or having occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases expected to be limited to small fractions of the EPA Protective Action Guideline (PAG) exposure level.
- 1.3 Site Emergency - Events in progress or having occurred which involve actual or imminent loss of major plant functions needed for protection of the public. Any major releases exceeding Technical Specification release limits but not expected to exceed EPA PAG exposure levels except near site boundary.
- 1.4 General Emergency - Events in progress or having occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA PAG exposure levels offsite.

2.0 PRECAUTIONS

- 2.1 All plant monitors indicating emergency classification levels being exceeded should be verified as to their validity prior to declaring an emergency class.

3.0 REFERENCES

- 3.1 KNPP Emergency Plan
- 3.2 EP-AD-1, Plant Emergency Organization

4.0 INSTRUCTIONS

- 4.1 During abnormal plant conditions, refer to Table EP-AD-2.1, Emergency Classifications, and the applicable chart to determine if a plant emergency exists.
- 4.2 If a plant emergency exists, perform the required actions of the respective emergency action level procedures listed below:
 - 4.2.1 EP-AD-3, Unusual Event
 - 4.2.2 EP-AD-4, Alert
 - 4.2.3 EP-AD-5, Site Emergency
 - 4.2.4 EP-AD-6, General Emergency
- 4.3 As plant conditions change, or the emergency condition is stabilized, continue to refer to the Emergency Classification tables to determine if the emergency should be reclassified.
- 4.4 If the plant has been brought to a condition below all the emergency classification levels, the emergency can be terminated.
- 4.5 If plant conditions are stabilized and no further degradation is imminent, however, conditions remain above the emergency action level, plant recovery operations should be initiated, per EP-AD-15.

TABLE EP-AD-2.1
EMERGENCY CLASSIFICATIONS

The following charts are separated into different abnormal operating conditions which may, depending upon their severity, be classified as an Unusual Event, Alert, Site Emergency, or General Emergency.

	<u>CHART</u>	<u>PAGE</u>
Abnormal Radiological Effluent	A	4
Fuel Damage Indication	B	8
Primary Leak to LOCA	C	9
Primary/Secondary Leak	D	10
Loss of Power	E	11
Engineered Safety Feature Anomaly	F	12
Fire and Fire Protection	G	13
Loss of Indication	H	14
Security Contingency	I	15
Primary System Anomaly	J	16
Secondary Side Anomaly	K	17
Miscellaneous Abnormal Plant Conditions	L	18
Personnel Injury	M	20
Earthquake	N	21
Flood, Low Water or Seiche	O	22
Tornado or High Winds	P	23
External Events	Q	24
Auxiliary Building Stack High	Fig. EP-AD-2.1	6
Range Monitor Reading versus	and	
Release Duration assuming most	Fig. EP-AD-2.2	7
adverse meterology for		
Emergency Class determination		

TABLE EP-AD-2.1
CHART A

ABNORMAL RADIOLOGICAL EFFLUENT

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
Radiological Effluent Technical Specification limits exceeded.	UNUSUAL EVENT	<u>Instantaneous Releases</u> 1 SV Exhaust Fan R-13 > 50,000 CPM Operating R-14 \geq 125,000 CPM 2 SV Exhaust Fans R-13 > 25,000 CPM Operating R-14 \geq 60,000 CPM <u>Batch Release</u> See Tech Specs Section 3.9
Radiation levels or airborne contamination which indicate a severe degradation in the control or radioactive materials. (e.g. radiation levels suddenly increase a factor of 1000)	ALERT	Containment R-2 > 6 R/hr R-11 \geq offscale R-12 \geq 400,000 CPM Charging Pump Area R-4 \geq 600 mR/hr Fuel Handling Area R-5 \geq 8 R/hr
Radiological effluents greater than 10 times Technical Specification instantaneous limits.	ALERT	1 SV Exhaust Fan R-13 > 500,000 CPM Operating R-14 \geq OFF SCALE 2 SV Exhaust Fans R-13 > 250,000 CPM Operating R-14 \geq 600,000 CPM

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TABLE EP-AD-2.1
 CHART A (cont'd)

ABNORMAL RADIOLOGICAL EFFLUENT

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
<p>Effluent monitors detect levels corresponding to greater than 50 mr/hr for 1/2 hour or greater than 500 mr/hr whole body for two minutes at the site boundary for "adverse meteorology."</p>	<p>SITE EMERGENCY</p>	<p>1 SV Exhaust Fan Refer to Figure EP-AD-2.1 2 Exhaust Fans Refer to Figure EP-AD-2.2 Obtain average monitor reading and actual or projected release duration. The intersection is the Emergency Classification.</p>
<p>Projected or measured in the environs dose rates greater than 50 mr/hr whole body or two minutes at the <u>site boundary</u>.</p>	<p>SITE EMERGENCY</p>	<p>Projected or measured dose rates to be provided by the onshift HP, Rad. Protection Director or Environmental Monitoring Teams.</p>
<p>Effluent monitors detect levels corresponding to greater than 1 rem/hr whole body or 5 rem thyroid at the <u>site boundary under "actual meteorological" conditions.</u></p>	<p>GENERAL EMERGENCY</p>	<p>Establish <u>worst case</u> projected dose rates by: 1 SV Exhaust Fan - refer to figure EP-AD-2.1 2 SV Exhaust Fans - refer to figure EP-AD-2.2 Determine dose levels for actual meteorological conditions by correcting for wind direction. Dose Level = (Worst case dose) (Wind Dir. factor) Wind Dir. Factor = 0 if wind is from 225° to 315° = 1 if wind is from any other direction NOTE: Evacuation recommendations should not be made unless the projected dose is 10 times greater than Gen. Emergency level indicated on Figures EP-AD-2.1 and EP-AD-2.2, then recommend Sheltering for the Sector (22.5°) in the plume path.</p>

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FIGURE EP-AD-2.1

EMERGENCY CLASS DETERMINATION WITH 1 ZONE SV EXHAUST FAN OPERATING

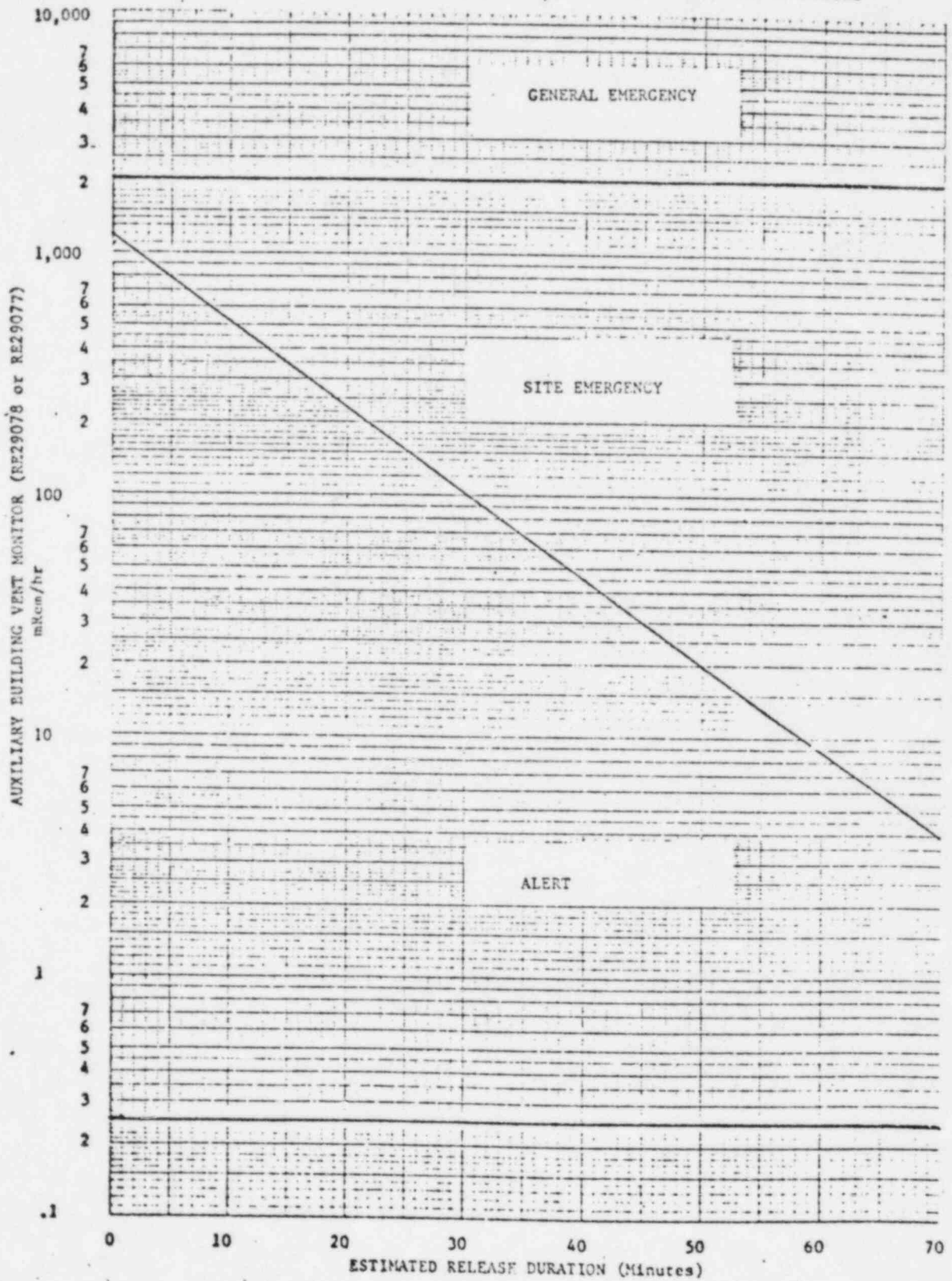


FIGURE EP-AD-2.2

EMERGENCY CLASS DETERMINATION WITH 2 ZONE SV EXHAUST FANS OPERATING

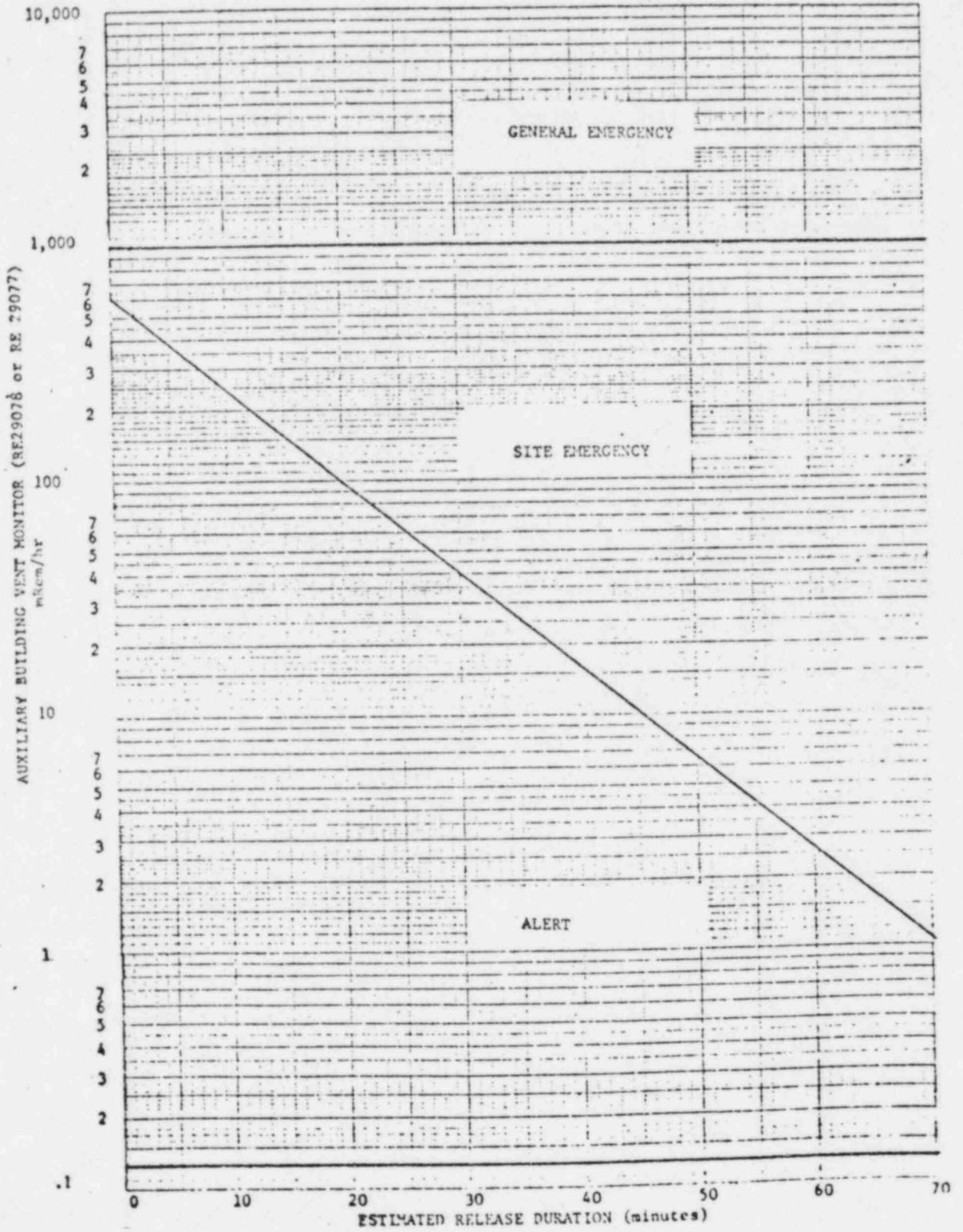


TABLE EP-AD-2.1
 CHART B

FUEL DAMAGE INDICATION

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
High reactor coolant activity sample	UNUSUAL EVENT	Exceed Technical Specification 3.1.c. Maximum Coolant Activity determined by reactor coolant sample analysis. Activity greater than 91/E.
Failed Fuel monitor indicates greater than 0.1% equivalent fuel failures within 30 minutes.	UNUSUAL EVENT	R-9 reads greater than 5 R/hr and is verified by portable instrument measurement.
Severe Loss of Fuel Cladding a. Very high coolant activity sample b. Failed fuel monitor indicates greater than 1% fuel failures within 30 minutes or 5% total fuel failures.	ALERT	R-9 indication is off scale, and laboratory analysis confirms greater than 300 uCi/ml of I-131 equivalent. Refer to EP-TSC-6, Assessment of Reactor Core Damage
Fuel damage accident with release of radioactivity to containment or auxiliary building.	ALERT	Containment R-11 > 5E6 CPM R-12 \geq 4E5 CPM Aux Bldg R-13 > 2.5E5 CPM R-14 \geq 6E5 CPM
Major damage to spent fuel in containment or auxiliary building	SITE EMERGENCY	Same monitor readings as above plus large object dropped in Reactor Core or Spent Fuel Pool or loss of water level below spent fuel level. (more than 1 spent fuel element damaged)

TABLE EP-AD-2.1
 CHART C

PRIMARY LEAK TO LOCA

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
<p>Exceeding Reactor Coolant System leak rate. Technical Specifications requiring reactor shutdown.</p>	<p>UNUSUAL EVENT</p>	<p>Any reactor shutdown required by Technical Specification, Section T.S. 3.1.d. Indicated leakage may be determined using Reactor Coolant System mass balance calculations performed by SP-36-082.</p>
<p>Reactor Coolant System leak rate greater than 50 GPM.</p>	<p>ALERT</p>	<p>Charging versus letdown indications indicate an unidentified leakage > 50 GPM.</p>
<p>Reactor Coolant system leakage greater than make-up pump capacity</p>	<p>SITE EMERGENCY</p>	<p>Large Break SI system is activated and indications are verified per Emergency Operating Procedure E-0-07. Small Break RCS system pressure stabilizes above 750 psig and SI pump flow is indicated by flow meter or RWST level decrease.</p>
<p>1) Loss of Coolant Accident with 2) Initial or subsequent failure of ECCS, and 3) Containment failure or potential failure exists, or Loss of 2 of 3 fission product barriers with a potential loss of 3rd barrier.</p>	<p>EMERGENCY</p>	<p>(1) LOCA is verified per Emergency Operating Procedure E-0-10, -and- (2) ECCS failure is indicated by: -SI and RHR pumps not running or no flow to the reactor vessel indicated. - Incore thermocouples indicate greater than 1800°F (I&C resistance measurements). - Subcooling meter is zero or negative. -and- (3) Failure or potential failure of containment is indicated by: - physical evidence of containment structure damage, or - Loss of all Fan Coil units and both trains of Containment Spray, or - Containment pressure exceeds 46 psig.</p>

TABLE EP-AD-2.1
 CHART D

PRIMARY TO SECONDARY LEAK

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
Exceeding Primary to Secondary leak rate Technical Specification placing the plant under a limiting condition for operation.	UNUSUAL EVENT	Any reactor shutdown required by Tech Specs 3.1.d.2.
Rapid gross failure of one steam generator tube with loss of offsite power.	ALERT	R-15 goes off scale high within 30 minutes, confirmed by R-19 increasing by a factor of 1000, or verified by S/G chemistry gross beta/gamma sample analysis. -plus- All three transformers: Main Aux., Reserve Aux., and Tertiary, are de-energized.
Rapid failure of multiple steam generator tubes.	ALERT	R-15 goes off scale high within 30 minutes, confirmed by R-19 increasing by a factor of 1000, or verified by S/G chemistry gross beta/gamma sample analysis. -plus- Primary to Secondary leak rate greater than 800 GPM as indicated by SI pump flow or RWST level change.
Rapid failure of steam generator tubes with loss of offsite power.	SITE EMERGENCY	All 3 of the following indications are present: (1) Secondary side activity increase as indicated above. (2) Primary to Secondary flow > 800 GPM (3) All three transformers are de-energized

TABLE EP-AD-2.1
 CHART E

LOSS OF POWER

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
Loss of offsite power -or- Loss of onsite AC power capability.	UNUSUAL EVENT	All three transformers: Main Aux, Reserve Aux, and Tertiary are de-energized. -or- Both Emergency Diesel Generators (D/G are inoperable.
Loss of offsite power -and- (short term) Loss of onsite AC power	ALERT	Buses 1-1 through 1-6 are de-energized, including the D/G supplies to buses 1-5 and 1-6. AC power is restored to bus 1-5 or 1-6 within 15 minutes.
Loss of offsite power -and- (long term) Loss of onsite AC power	SITE EMERGENCY	Buses 1-1 through 1-6 are de-energized including the D/G supplies to buses 1-5 and 1-6 for longer than 15 Minutes.
Loss of all vital onsite DC power for more than 15 minutes	SITE EMERGENCY	Low voltage lockout or de-energized condition on all four DC distribution cabinets: BRA-113 BRB-113 BRA-114 BRB-114
Failure of offsite and onsite AC power -and- Total loss of Auxiliary Feedwater makeup capability for: Greater than 2 hours. (Loss of power plus loss of AFW would lead to fuel clad failure and potential containment failure)	GENERAL EMERGENCY	Buses 1-1 through 1-6 are de-energized including the D/G supplies to buses 1-5 and 1-6. -and- Loss of the turbine driven AFW pump. Conditions exists for greater than 2 hours.

TABLE EP-AD-2.1
 CHART F

ENGINEERED SAFETY FEATURE ANOMALY

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
Emergency core cooling initiated and discharged to the reactor vessel.	UNUSUAL EVENT	Safety Injection Sequence has been initiated, and either the SI pumps or RHR pumps have caused an unplanned injection of core cooling water into reactor vessel. This should be verified by system flows, comparison of discharge pressure versus RCS pressure, and/or BA/RWST level changes.
Loss of engineered safety feature function requiring shutdown by Technical Specifications.	UNUSUAL EVENT	Any shutdown required by Tech Specs Limiting Conditions for Operation, Section 3.3, Engineered Safety Features and Auxiliary Systems.
Complete loss of any function required for cold shutdown.	ALERT	Loss of operability of both trains of RHR for core cooling if the steam generators are unable to be utilized.
Failure of the Reactor Protection System to initiate and complete a reactor trip which brings the reactor subcritical.	ALERT	Failure of the reactor protection system to initiate and complete a reactor trip when required. (e.g. A turbine trip from full power without reactor trip. Indication would be increasing reactor coolant system pressure leading to lifting of pressurizer relief valves.)
Complete loss of any function needed for plant hot shutdown.	SITE EMERGENCY	Total loss of all auxiliary and main feedwater systems (e.g. loss of both feedwater pumps and all three auxiliary feedwater pumps) when the primary system temperature is above 350°F.

TABLE EP-AD-2.1
 CHART G

FIRE AND FIRE PROTECTION

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
Loss of Fire Protection System function requiring shutdown by Technical Specifications.	UNUSUAL EVENT	Kewaunee has no Technical Specifications which require shutdown with loss of a fire Protection System function.
A fire within the plant lasting more than 10 minutes.	UNUSUAL EVENT	A fire within the Administration Building, Technical Support Center, Turbine Building, Warehouse, Auxiliary Building, or Containment Building lasting more than 10 minutes.
A fire potentially affecting safety systems.	ALERT	A fire within the Auxiliary Bldg., Safeguards alley, D/G rooms or Screenhouse lasting more than 10 minutes that causes ESF equipment to be inoperable.
A fire compromising the functions of safety systems.	SITE EMERGENCY	A fire within the Auxiliary Bldg., Safeguards alley, D/G rooms or Screenhouse that has rendered both trains of ESF equipment that is needed to bring the plant to hot shutdown inoperable.

TABLE EP-AD-2.1
CHART H
LOSS OF INDICATION

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
indications or alarms on process or Effluent parameters not functional Control Room to an extent requiring plant shutdown or other significant loss of assessment capability.	UNUSUAL EVENT	Refer to Technical Specification Sections 3.3, Engineered Safety Features and Auxiliary Systems, 3.5, Instrumentation System, and 3.10, Control Rod and Power Distribution Limits, to determine if plant shutdown is required.
Most or all alarms (annunciators) lost.	ALERT	Total loss of Annunciator System, Computer Alarms, and Sequence of Events Recorder.
Most or all alarms (annunciators) lost and a plant transient initiated in progress.	SITE EMERGENCY	Total loss of Annunciator System, Computer Alarms, and Sequence of Events Recorder with an uncontrol- led plant transient in progress or initiated during the loss.

TABLE EP-AD-2.1
 CHART I
SECURITY CONTINGENCY

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
Security threat or attempted entry or attempted sabotage.	UNUSUAL EVENT	Examples: - Bomb threat accompanied by interception of bomb materials. - Adversary intercepted in the protected area. - Undetonated bomb found on premises.
Ongoing security compromise.	ALERT	Examples: - Armed attack on plant. - Bomb detonated within the protected area.
Imminent loss of physical control of the plant.	SITE EMERGENCY	Example: - Armed intruders within protected area about to enter Control Room.

TABLE EP-AD-2.1
 CHART J

PRIMARY SYSTEM ANOMALY

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
Abnormal coolant temperature and/or pressure -or- abnormal fuel temperatures exceeding Technical Specification limits.	UNUSUAL EVENT	Technical Specification section T.S. 2.1 limits exceeded. Indications: - RCS pressure vs Tave exceeds Figure T.S. 2.1-1 - Subcooling meter indicates zero or negative. - Incore thermocouple readings exceed 1000°F -or- Fuel temperature limits are exceeded as determined by flux mapping and computer code calculations.
Coolant pump seizure leading to fuel failure.	ALERT	Primary flow transient and subsequent fuel failure indicated by: - Zero indication on one RCS loop flow - Overpressurization of RCS and relief valve lifting causing PRT temp and pressure alarms - R-9 indicates greater than 10 R/hr, verified by RCS sample analysis

TABLE EP-AD-2.1
 CHART K

SECONDARY SIDE ANOMALY

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
Turbine rotating component failure causing rapid plant shutdown.	UNUSUAL EVENT	A failure of the turbine resulting in an immediate shutdown and/or overspeed condition and for which turbine repair requires major disassembly.
Rapid Depressurization of the secondary side.	UNUSUAL EVENT	The uncontrolled depressurization of the secondary system to the point where automatic safety injection is initiated (less than 500 psig steam generator pressure).
Steam line break with significant (greater than 10 GPM) primary to secondary leakage.	ALERT	Main steamline break that causes ECCS actuation (less than 500 psig S/G pressure) -and- R-15 or R-19 reading a factor of 1000 above normal, verified by S/G chemistry sample analysis -or- RCS to S/G leakage verified by mass inventory >10 GPM.
Steam line break with Primary to Secondary leak >50 GPM and Indication of Fuel Damage	SITE EMERGENCY	Main steamline break that causes ECCS actuation (less than 500 psig S/G pressure) -and- R-15 or R-19 readings offscale, verified by S/G chemistry sample analysis -or- RCS to S/G leakage verified by mass inventory > 50 GPM -and- R-9 indication >10 R/hr and verified by RCS chemistry sample analysis.

TABLE EP-AD-2.1

CHART L

MISCELLANEOUS ABNORMAL PLANT CONDITIONS

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
Loss of containment integrity requiring shutdown by Technical Specifications.	UNUSUAL EVENT	Refer to T.S. Section 3.6 to determine if shutdown is required.
Other plant conditions that warrant increased awareness on the part of plant staff or state and/or local authorities, and requires plant shutdown under Tech. Specifications.	UNUSUAL EVENT	Conditions at the discretion of the Emergency Director or his designated alternate. Examples include cooldown rate exceeding T.S. limits or pipe crack found during operation.
Evacuation of Control Room anticipated or required with control of shutdown system established from local stations.	ALERT	Evacuation of Control Room (E-0-06) with control at shutdown panel.
Evacuation of Control Room and control of shutdown systems not established from local stations.	SITE EMERGENCY	Evacuation of Control Room (E-0-06) and failure to establish control at shutdown panel within 15 minutes.

TABLE EP-AD-2.1
 CHART L (cont'd)

MISCELLANEOUS ABNORMAL PLANT CONDITIONS

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
<p>Other plant conditions that make a release of large amounts of radioactivity in a short time period possible, e.g. any core melt situation</p> <p>Examples:</p> <ul style="list-style-type: none"> - Failure of Main FW and AFW systems for extended period without ECCS flow. Plus a containment failure is imminent. - Transient requiring the operation of shutdown systems with a failure of these shutdown systems. In addition failure of ECCS and containment failure is imminent. 	<p>GENERAL EMERGENCY</p>	<p>Two fission product barriers are lost with the potential or probability of losing the third barrier. (At least one verified indication in each category below.)</p> <p>Indications:</p> <p>Containment boundary potential failure</p> <ul style="list-style-type: none"> - pressure >46 psig - loss of containment cooling systems <p>RCS boundary</p> <ul style="list-style-type: none"> - no ECCS flow - failed open relief or Safety valve with no isolation capability - RCS break <p>Fuel Cladding</p> <ul style="list-style-type: none"> - R-9 > 10 R/hr - RCS chemistry analysis

TABLE EP-AD-2.1
CHART M
PERSONNEL INJURY

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
transportation of contaminated and seriously injured individual from site to an offsite hospital.	UNUSUAL EVENT	Self-explanatory

TABLE EP-AD-2.1
CHART N
EARTHQUAKE

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
Any earthquake felt in plant or detected on station seismic instrumentation.	UNUSUAL EVENT	Activation of seismic recorder (Annunciator 1-45) with EVENT light lit in relay room -and- Verified by actual physical ground shaking or by contacting U. of W. (Milwaukee) seismic center. at
An earthquake greater than Operational Basis Earthquake (OBE).	ALERT	Activation of seismic recorder (Ann. 1-45) with horizontal EVENT and LO lights lit in relay room -and- 0.06g horizontal ground acceleration experienced at site. Verified by contacting at
An earthquake greater than Safe Shutdown Earthquake (SSE).	SITE EMERGENCY	Activation of seismic recorder (Ann. 1-45) with EVENT, LO and HI lights lit in relay room -and- 0.12g horizontal ground acceleration experienced at site. Verified by contacting at

TABLE EP-AD-2.1
CHART 0
FLOOD, LOW WATER, OR SEICHE

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
50 year flood, low water or seiche	UNUSUAL EVENT	High water level above 580 feet. Low forebay water level condition that cannot be cleared by stopping the circulating water system. Wave greater than 18 feet.
Flood, low water, or seiche near design levels.	ALERT	Design High Water Level = 582 feet Design Low Water Level = 575 feet Design Deep Water WAVE = 22.5 feet

TABLE EP-AD-2.1
CHART P
TORNADO OR HIGH WINDS

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
Any tornado on site	UNUSUAL EVENT	A tornado within sight of the plant which has caused the loss of at least one of the offsite transmission lines.
Any tornado striking facility	ALERT	A tornado which strikes the facility and causes damage that affects the continued safe operation of the plant.
Sustained winds in excess of design levels with plant not in cold shutdown	SITE EMERGENCY	Winds in excess of 100 mph for greater than 1 hour.

TABLE EP-AD-2.1
 CHART Q

EXTERNAL EVENTS

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
Aircraft crash onsite or unusual aircraft activity over facility.	UNUSUAL EVENT	An aircraft crash within the site boundary or notification from the security force or other source of higher than normal aircraft activity over the site.
Aircraft crash on facility	ALERT	An aircraft crash into plant buildings or switchyard which affects plant operation.
Missile impact from whatever source on facility.	ALERT	A missile strikes the facility which affects plant operation.
Entry into facility environs of uncontrolled toxic or flammable gases.	ALERT	Release of toxic or flammable gas from a ruptured container such that the gases enter the plant protected area or buildings.
Known explosion damage to facility affecting plant operation.	ALERT	Self-explanatory
Aircraft crash affecting vital structures by impact or fire.	SITE EMERGENCY	An aircraft crash into plant buildings which causes the loss of Engineered Safety Features required to bring the plant to hot shutdown conditions.

TABLE EP-AD-2.1
 CHART Q (cont'd)

EXTERNAL EVENTS

EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION	KNPP INDICATION
Severe damage to safe shutdown equipment from missiles or explosion	SITE EMERGENCY	A missile strikes plant buildings or explosion occurs within a plant building which causes the loss of Engineered Safety Features required to bring the plant to hot shutdown conditions.
Entry of uncontrolled flammable gases into vital area, or entry of uncontrolled toxic gases into vital areas where lack of access to the area constitutes a safety problem.	SITE EMERGENCY	Release of flammable or toxic gas from a ruptured container which enters vital areas as described at left. Portable H ₂ monitor detects explosive concentration of H ₂ in vital area.

REVIEWED BY

M L Muehle

APPROVED BY

DMH

1.0 Applicability

1.1 This procedure is to be implemented upon declaration of an Unusual Event, or at the request of the Emergency Director.

2.0 Precautions

2.1 If an emergency class escalation occurs during the notifications, immediately implement the notification procedure for the new emergency classification.

2.2 All pages should be sent on both transmitters to ensure complete area coverage -
Kewaunee transmitter (plant ext. Green Bay transmitter (plant ext.
or Green Bay ext.

2.3 All Green Bay pager transmissions must have the pager number preceded by a 1.

3.0 References

3.1 EP-AD-2, Emergency Classification

3.2 EP-AD-17, Communications

3.3 EP-AD-15, Recovery Planning

4.0 Instructions

4.1 Initial notifications

INITIALS

___ 4.1.1 If fire emergency, verify that notification required by ACD 14.2 has been made.

___ 4.1.2 Notify one designate for each key emergency position. Designates are listed by call priority.

Home phone contact should be used initially if time permits.

The first designate for each plant director position can be contacted simultaneously by using pager code #

The designated director notified by pager should confirm contact with a return telephone call to

WISCONSIN PUBLIC SERVICE CORPORATION

Kewaunee Nuclear Power Plant

EMERGENCY PLAN IMPLEMENTING PROCEDURE

NO. EP-AD-7

TITLE: Notification of Unusual Event

DATE: OCT 13 1982

PAGE 2 of 7

Emergency Director (ED)

Ext.

Home #

Individual
Pager

Group
Pager

DESIGNATE CONTACTED _____

TIME _____

Event Operations Director (EOD)

DESIGNATE CONTACTED _____

TIME _____

Radiological Protection Director (RPD)

DESIGNATE CONTACTED _____

TIME _____

WISCONSIN PUBLIC SERVICE CORPORATION

Kewaunee Nuclear Power Plant

EMERGENCY PLAN IMPLEMENTING PROCEDURE

NO. EP-AD-7

TITLE: Notification of Unusual Event

DATE: OCT 13 1982 | PAGE 3 of 7

Technical Support Center Director (TSCD)

<u>Home #</u>	<u>Individual Pager</u>	<u>Group Pager</u>
---------------	-----------------------------	------------------------

DESIGNATE CONTACTED _____ TIME _____

Support Activities Director (SAD)

DESIGNATE CONTACTED _____ TIME _____

Security Director

DESIGNATE CONTACTED _____ TIME _____

4.1.3 Notify the Emergency Response Manager (ERM)

NOTE: If notified by pager, designate will confirm contact with a return telephone call to

Emergency Response Manager

Home#

Individual Pager Group Pager

DESIGNATE CONTACTED _____ TIME _____

INITIALS

4.1.4 Notify the state and local governments using the NAWAS phone with the following statement:

Kewaunee Nuclear calling Warning Center 1, East Central Area, Kewaunee County, and Manitowoc County. Please acknowledge.

Wait until all four areas have acknowledged, then continue. If any area fails to acknowledge, ask Warning Center 1 to ring that area.

All areas please take the following message:

This is (title) at the Kewaunee Nuclear Plant. An incident has occurred at our facility and we are declaring an Unusual Event at (time) on (date).

There (has/has not) been a radiological release. No off-site consequences or evacuation of residents is expected. This message is for notification only; no off-site response is requested at this time.

We will keep you informed of the situation.

Any confirming calls or return contacts should be through commercial telephone.

To repeat: Kewaunee Nuclear Plant is declaring an Unusual Event at (time) on (date). Relay this information to Emergency Government immediately.

Please acknowledge receipt of message.

- 4.1.5 Notify the NRC (Headquarter, Bethesda) using the emergency notification system (ENS) Red Phone and provide them with the necessary information from a completed Significant Event checklist.
Commercial phone back-up:

NRC CONTACT _____ TIME _____

- 4.1.6 Perform any additional notifications requested by the Emergency Director.

INITIALS

Group Pager #

Time

_____	Operations Personnel	_____
_____	Inplant Radiation Emergency Team	_____
_____	Emergency Chemistry Team	_____
_____	Fire Team	_____
_____	TSC Personnel	_____

NOTE: If individual pager numbers are needed, reference EP-AD-17 Communications.

INITIALS

- 4.1.7 If the TSC has been activated, transfer the notification function to the TSC staff. Inform them of notification status.

TIME _____

4.2 Unusual Event Close Out

4.2.1 Notify the previously contacted key emergency position designates of the emergency close-out.

INITIALS

____ Emergency Director
____ Event Operations Director
____ Radiological Protection Director
____ Technical Support Center Director
____ Support Activities Director
____ Emergency Response Manager

4.2.2 Notify the state and local governments of the emergency close-out.

____ Wisconsin Emergency Operations Center (EOC)
____ State Patrol Fond du Lac, or
East Central Area EOC (if activated)
____ Kewaunee County Sheriff, or
Kewaunee County EOC (if activated)
____ Manitowoc County Sheriff, or
Manitowoc County EOC (if activated)

The following message should be given:

This is (title) at the Kewaunee Nuclear Power Plant. We have closed out the Unusual Event at (time) on (day).

This verbal close out will be followed with a written summary within 24 hours.

Relay this information to Emergency Government immediately.

4.2.3 Notify the NRC of the Unusual Event close-out with an update of plant conditions.

____ NRC Notified

4.3 Final Conditions (one of the following)

INITIALS

- _____ 4.3.1 A higher class of emergency has been declared by the Emergency Director and one of the following procedures is being implemented:
- a. Notification of an Alert (EP-AD-8)
 - b. Notification of a Site Emergency (EP-AD-9)
 - c. Notification of a General Emergency (EP-AD-10)
- _____ 4.3.2 The Unusual Event has been closed out and no recovery operations are required.
- _____ 4.3.3 The recovery phase criteria have been met and the emergency organization is shifting to a recovery mode, by implementing EP-AD-15, Recovery Planning.

TITLE: Notification of Alert

DATE: OCT 13 1982

PAGE 1 of 10

REVIEWED BY

M L Marchi

APPROVED BY

DMT

1.0 APPLICABILITY

This procedure is to be implemented upon declaration of an Alert, or at the request of the Emergency Director.

2.0 Precautions

- 2.1 If an emergency class escalation occurs during the notifications, immediately implement the notification procedure for the new emergency classification.
- 2.2 All pages should be sent on both transmitters to ensure complete area coverage - Kewaunee transmitter (plant ext. Green Bay transmitter (plant ext: or Green Bay ext.
- 2.3 All Green Bay pager transmissions must have the pager number preceded by a 1.

3.0 References

- 3.1 EP-AD-2, Emergency Classification
- 3.2 EP-AD-17, Communications
- 3.3 EP-AD-15, Recovery Planning

4.0 Instructions

4.1 Initial notifications

INITIALS

- ___ 4.1.1 If fire emergency, verify that notification required by ACD 14.2 has been made.
- ___ 4.1.2 Notify one designate for each key emergency position. Designates are listed by call priority.

Home phone contact should be used initially if time permits.

The first designate for each plant director position can be contacted simultaneously by using pager code #

The designated directors notified by pager should confirm contact with a return telephone call to

WISCONSIN PUBLIC SERVICE CORPORATION

Kewaunee Nuclear Power Plant

EMERGENCY PLAN IMPLEMENTING PROCEDURE

NO. EP-AD-8

TITLE: Notification of Alert

DATE: OCT 13 1982

PAGE 2 of 10

Emergency Director (ED)

Ext.

Home #

Individual Group
Pager Pager

DESIGNATE CONTACTED _____ TIME _____

Event Operations Director (EOD)

DESIGNATE CONTACTED _____ TIME _____

Radiological Protection Director (RPD)

DESIGNATE CONTACTED _____ TIME _____

WISCONSIN PUBLIC SERVICE CORPORATION

Kewaunee Nuclear Power Plant

EMERGENCY PLAN IMPLEMENTING PROCEDURE

NO. EP-AD-8

TITLE: Notification of Alert

DATE: OCT 13 1982

PAGE 3 of 10

Technical Support Center Director (TSCD)

Home#

Individual Group
Pager Pager

DESIGNATE CONTACTED _____ TIME _____

Support Activities Director (SAD)

DESIGNATE CONTACTED _____ TIME _____

Security Director

DESIGNATE CONTACTED _____ TIME _____

4.1.3 Notify the Emergency Response Manager (ERM)

NOTE: If notified by pager, designate will confirm contact with a return telephone call to

Emergency Response Manager

Home#

Individual
Pager

Group
Pager

DESIGNATE CONTACTED _____

TIME _____

INITIALS

4.1.4 Notify the state and local governments using the NAWAS phone.

NOTE: This becomes the responsibility of the EOF staff after EOF activation.

The following statement should be given:

Kewaunee Nuclear calling Warning Center 1, East Central Area, Kewaunee County, and Manitowoc County. Please acknowledge.

Wait until all four areas have acknowledged, then continue. If any area fails to acknowledge, ask Warning Center 1 to ring that area.

All areas please take the following message:

This is (title) at the Kewaunee Nuclear Plant. An incident has occurred at our facility and we are declaring an Alert at (time) on (date).

There (has/has not) been a radiological release. No off-site consequences or evacuation of residents is expected. The State Radiological Response Team and key-response personnel should be notified. Prepare to activate Emergency Operations Centers.

We will keep you informed of the situation.

Any confirming calls or return contacts should be through commercial telephone.

To repeat: Kewaunee Nuclear Plant is declaring an Alert (time) on (date). Please relay this information to Emergency Government immediately.

Please acknowledge receipt of message.

4.1.5 Notify the United States Coast Guard using commercial telephone lines with the text of the previous message.

NOTE: This becomes the responsibility of the EOF staff after EOF activation.

Day
Night

COAST GUARD CONTACT _____ TIME _____ INITIALS _____

4.1.6 Notify the NRC (Headquarters, Bethesda) using the emergency notification system (ENS) Red Phone and provide them with the necessary information from a completed Significant Event checklist.
Commercial phone back-up:

NRC CONTACT _____ TIME _____ INITIALS _____

4.1.7 Perform any additional notifications requested by the Emergency Director.

INITIALS

Group Pager #

Time

_____	Operations Personnel	_____
_____	Inplant Radiation Emergency Team	_____
_____	Emergency Chemistry Team	_____
_____	Site Radiation Emergency Team	_____
_____	Fire Team	_____
_____	TSC Personnel	_____

NOTE: If individual pager numbers are needed, reference EP-AD-17 Communications.

4.1.8 Transfer notification function to the Technical Support Center as soon as it has been fully activated and staffed.

TIME _____ INITIALS _____

4.1.9 If the EOF has been activated, transfer responsibility for notification of Coast Guard, and State and local agencies.

TIME _____ INITIALS _____

4.2 Alert De-escalation to an Unusual Event

4.2.1 Notify the key emergency directors of the emergency class change.

INITIALS

TIME

_____	Event Operations Director	_____
_____	Radiological Protection Director	_____
_____	Technical Support Center Director	_____
_____	Support Activities Director	_____
_____	Security Director	_____
_____	Emergency Response Manager	_____

4.2.2 Notify the support agencies of the emergency class change.

NOTE: This becomes the responsibility of the EOF staff after EOF activation.

_____ Wisconsin Emergency Operations Center (EOC)

CONTACT _____ TIME _____

_____ State Patrol Fond du Lac, or
East Central Area EOC (if activated)

CONTACT _____ TIME _____

_____ Kewaunee County Sheriff, or
Kewaunee County EOC (if activated)

CONTACT _____ TIME _____

_____ Manitowoc County Sheriff, or
Manitowoc County EOC (if activated)

CONTACT _____ TIME _____

_____ U.S. Coast Guard

CONTACT _____	Day Night	TIME _____
---------------	--------------	------------

The following message should be given:

This is (title) at the Kewaunee Nuclear Power Plant. Conditions have improved and we have de-escalated the Alert to an Unusual Event at (time) on (day).

To repeat: The Alert has been de-escalated to an Unusual Event at (time) on (day). Relay this information to Emergency Government immediately.

4.2.3 Notify the NRC of the Alert de-escalation to an Unusual Event with an update of plant conditions.

4.3 Alert Close Out

4.3.1 Notify the key emergency directors of the emergency close out.

<u>INITIALS</u>		<u>TIME</u>
_____	Event Operations Director	_____
_____	Radiological Protection Director	_____
_____	Technical Support Center Director	_____
_____	Support Activities Director	_____
_____	Security Director	_____
_____	Emergency Response Manager	_____

4.3.2 Notify the support agencies of the emergency close out.

NOTE: This becomes the responsibility of the EOF staff after EOF activation.

Wisconsin Emergency Operations Center (EOC)

CONTACT _____ TIME _____

State Patrol Fond du Lac, or East Central Area EOC (if activated)

CONTACT _____ TIME _____

Kewaunee County Sheriff, or Kewaunee County EOC (if activated)

CONTACT _____ TIME _____

Manitowoc County Sheriff, or Manitowoc County EOC (if activated)

CONTACT _____ TIME _____

U.S. Coast Guard Day Night

CONTACT _____ TIME _____

The following message should be given:

This is (title) at the Kewaunee Nuclear Power Plant. We have closed out the Alert at (time) on (day).
To repeat: The Alert has been closed out at (time) on (day). Relay this information to Emergency Government immediately.
This verbal close out will be followed with a written summary within 8 hours.

4.3.3 Notify the NRC of the Alert close out with an update of plant conditions.

4.4 Final Conditions (one of the following)

INITIALS

- ____ 4.4.1 A higher class of emergency has been declared by the Emergency Director and one of the following procedures is being implemented:
- a. Notification of a Site Emergency (EP-AD-9)
 - b. Notification of a General Emergency (EP-AD-14)
- ____ 4.4.2 The Alert has been reclassified as an Unusual Event; and EP-AD-7, Notification of an Unusual Event, is being implemented.
- ____ 4.4.3 The Alert has been closed out and no recovery operations are required.
- ____ 4.4.4 The recovery phase criteria have been met and the emergency organization is shifting to a recovery mode, by implementing EP-AD-15, Recovery Planning.

Kewaunee Nuclear Power Plant

TITLE: Notification of Site Emergency

EMERGENCY PLAN IMPLEMENTING PROCEDURE

DATE: OCT 13 1982

PAGE 1 of 9

REVIEWED BY

M. L. March

APPROVED BY

DMH

1.0 APPLICABILITY

- 1.1 This procedure is to be implemented upon declaration of a Site Emergency or at the request of the Emergency Director.

2.0 Precautions

- 2.1 If an emergency class escalation occurs during the notifications, immediately implement the notification procedure for the new emergency classification.
- 2.2 All pages should be sent on both transmitters to ensure complete area coverage - Kewaunee transmitter (plant ext. Green Bay transmitter (plant ext. or Green Bay ext.
- 2.3 All Green Bay pager transmissions must have the pager number preceded by a 1.

3.0 References

- 3.1 EP-AD-2, Emergency Classification
- 3.2 EP-AD-17, Communications
- 3.3 EP-AD-15, Recovery Planning

4.0 Instructions

4.1 Initial notifications

INITIALS

- ___ 4.1.1 If fire emergency, verify that notification required by ACD 14.2 has been made.
- ___ 4.1.2 Notify one designate for each key emergency position. Designates are listed by call priority.

Home phone contact should be used initially if time permits.

The first designate for each plant director position can be contacted simultaneously by using pager code #

The designated directors notified by pager should confirm contact with a return telephone call to

WISCONSIN PUBLIC SERVICE CORPORATION

Kewaunee Nuclear Power Plant

EMERGENCY PLAN IMPLEMENTING PROCEDURE

NO. EP-AD-9

TITLE: Notification of Site Emergency

DATE: OCT 13 1982

PAGE 2 of 9

Emergency Director (ED)

Ext.

Home #

Individual Group
Pager Pager

DESIGNATE CONTACTED _____ TIME _____

Event Operations Director (EOD)

DESIGNATE CONTACTED _____ TIME _____

Radiological Protection Director (RPD)

DESIGNATE CONTACTED _____ TIME _____

WISCONSIN PUBLIC SERVICE CORPORATION

Kewaunee Nuclear Power Plant

EMERGENCY PLAN IMPLEMENTING PROCEDURE

NO. EP-AD-9

TITLE: Notification of Site Emergency

DATE: OCT 13 1982

PAGE 3 of 9

Technical Support Center Director (TSCD)

Home #

Individual
Pager

Group
Pager

DESIGNATE CONTACTED _____ TIME _____

Support Activities Director (SAD)

DESIGNATE CONTACTED _____ TIME _____

Security Director

DESIGNATE CONTACTED _____ TIME _____

4.1.3 Notify the Emergency Response Manager (ERM)

NOTE: If notified by pager, designate will confirm contact with a return telephone call to

Emergency Response Manager

Home #

Individual Pager Group Pager

DESIGNATE CONTACTED _____

TIME _____

INITIALS

4.1.4 Notify the state and local governments using the NAWAS phone with the following statement:

Kewaunee Nuclear calling Warning Center 1, East Central Area, Kewaunee County, and Manitowoc County. Please acknowledge.

Wait until all four areas have acknowledged, then continue. If any area fails to acknowledge, ask Warning Center 1 to ring that area.

All areas please take the following message:

This is (title) at the Kewaunee Nuclear Plant. An incident has occurred at our facility and we are declaring a Site Emergency at (time) on (date).

There (has/has not) been a radiological release. Near site consequences are expected. The State Radiological Response Team and key response personnel should be notified and dispatched. Activate Emergency Operations Centers.

We will keep you informed of the situation.

Any confirming calls or return contacts should be through commercial telephone.

To repeat: Kewaunee Nuclear Plant is declaring a Site Emergency at (time) on (date). Relay this information to Emergency Government immediately.

Please acknowledge receipt of message.

4.1.5 Notify the United States Coast Guard using commercial telephone lines with the text of the previous message.

Day
Night

COAST GUARD CONTACT TIME

4.1.6 Notify the NRC (Headquarter, Bethesda) using the Emergency Notification System (ENS) red phone and provide them with the necessary information from a completed Significant Event checklist. Commercial phone back-up:

NRC CONTACT TIME

4.1.7 Perform any additional notifications requested by the Emergency Director.

Table with 3 columns: INITIALS, Group Pager #, Time. Rows include Operations Personnel, Inplant Radiation Emergency Team, Emergency Chemistry Team, Site Radiation Emergency Team, Plant Electricians, I & C Personnel, Plant Mechanics, Fire Team, TSC Personnel.

NOTE: If individual pager numbers are needed, reference EP-AD-17 Communications.

4.1.8 Transfer the notification function to the Technical Support Center as soon as it has been fully activated and staffed.

TIME _____ INITIALS _____

4.1.9 Transfer the notification of the Coast Guard and State and local agencies to the EOF after it has been fully activated and staffed.

TIME _____ INITIALS _____

4.2 Site Emergency De-escalation to Alert or Unusual Event

4.2.1 Notify the key emergency directors of the emergency class change.

INITIALS

TIME

_____ Event Operations Director _____

_____ Radiological Protection Director _____

_____ Technical Support Center Director _____

_____ Support Activities Director _____

_____ Security Director _____

_____ Emergency Response Manager _____

4.2.2 Notify the support agencies of the emergency class change.

NOTE: This becomes the responsibility at the EOF staff after EOF activation.

_____ Wisconsin Emergency Operations Center (EOC)

CONTACT _____ TIME _____

_____ State Patrol Fond du Lac, or
East Central Area EOC (if activated)

CONTACT _____ TIME _____

_____ Kewaunee County Sheriff, or
Kewaunee County EOC (if activated)

CONTACT _____ TIME _____

INITIALS

_____ Manitowoc County Sheriff, or
_____ Manitowoc County EOC (if activated)

CONTACT _____ TIME _____

_____ U.S. Coast Guard Day _____
Night _____

CONTACT _____ TIME _____

The following message should be given:

This is (title) at the Kewaunee Nuclear Power Plant. Conditions have improved and we have de-escalated the Site Emergency to an (Alert/Unusual Event) at (time) on (day).

To repeat: The Site Emergency has been de-escalated to an (Alert/Unusual Event) at (time) on (day). Relay this information to Emergency Government immediately.

_____ 4.2.3 Notify the NRC of the Site Emergency de-escalation to an (Alert/Unusual Event) with an update of plant conditions.

4.3 Site Emergency Close Out

4.3.1 Notify the key emergency directors of the emergency close-out.

INITIALS

TIME

_____ Event Operations Director _____
_____ Radiological Protection Director _____
_____ Technical Support Center Director _____
_____ Support Activities Director _____
_____ Security Director _____
_____ Emergency Response Manager _____

4.3.2 Notify the support agencies of the emergency close-out.

NOTE: This becomes the responsibility of the EOF staff after EOF activation.

Wisconsin Emergency Operations Center (EOC)

CONTACT _____ TIME _____

State Patrol Fond du Lac, or
East Central Area EOC (if activated)

CONTACT _____ TIME _____

Kewaunee County Sheriff, or
Kewaunee County EOC (if activated)

CONTACT _____ TIME _____

Manitowoc County Sheriff, or
Manitowoc County EOC (if activated)

CONTACT _____ TIME _____

U.S. Coast Guard

Day
Night

CONTACT _____ TIME _____

The following message should be given:

This is (title) at the Kewaunee Nuclear Power Plant. We have closed out the Site Emergency at (time) on (day). To repeat: The Site Emergency has been closed out at (time) on (day).

This verbal close out will be followed with a written summary within 8 hours.

Relay this information to Emergency Government immediately.

4.3.3 Notify the NRC of the Site Emergency close-out with an update of plant conditions.

4.4 Final Conditions (one of the following)

INITIALS

- ___ 4.4.1 A General Emergency has been declared and EP-AD-10, Notification of a General Emergency is being implemented.
- ___ 4.4.2 The Site Emergency has been reclassified as:
- a. An Unusual Event, and EP-AD-7, Notification of an Unusual Event is being implemented.
 - b. An Alert, and EP-AD-8, Notification of an Alert, is being implemented.
- ___ 4.4.3 The Site Emergency has been closed out and no recovery operations are required.
- ___ 4.4.4 The recovery phase criteria have been met and the emergency organization is shifting to a recovery mode, by implementing EP-AD-15, Recovery Planning.

Kewaunee Nuclear Power Plant

TITLE: Notification of General Emergency

EMERGENCY PLAN IMPLEMENTING PROCEDURE

DATE: OCT 13 1982

PAGE 1 of 9

REVIEWED BY

M. L. Marchi

APPROVED BY

DMH

1.0 APPLICABILITY

1.1 This procedure is to be implemented upon declaration of a General Emergency or at the request of the Emergency Director.

2.0 Precautions

2.1 All pages should be sent on both transmitters to ensure complete area coverage - Kewaunee transmitter (plant ext. Green Bay transmitter (plant ext. or Green Bay ext.

2.2 All Green Bay pager transmissions must have the pager number preceded by a 1.

3.0 References

3.1 EP-AD-2, Emergency Classification

3.2 EP-AD-15, Recovery Planning

3.3 EP-AD-17, Communications

4.0 Instructions

4.1 Initial notifications

INITIALS

4.1.1 If fire emergency, verify that notification required by ACD 14.2 has been made.

4.1.2 Notify one designate for each key emergency position. Designates are listed by call priority.

Home phone contact should be used initially if time permits.

The first designate for each plant director position can be contacted simultaneously by using pager code #

The designated directors notified by pager should confirm contact with a return telephone call to

WISCONSIN PUBLIC SERVICE CORPORATION

Kewaunee Nuclear Power Plant

EMERGENCY PLAN IMPLEMENTING PROCEDURE

NO. EP-AD-10

TITLE: Notification of General Emergen

DATE: OCT 13 1982

PAGE 2 of 9

Emergency Director (ED)

Ext.

Home #

Individual
Pager

Group
Pager

DESIGNATE CONTACTED _____ TIME _____

Event Operations Director (EOD)

DESIGNATE CONTACTED _____ TIME _____

Radiological Protection Director (RPD)

DESIGNATE CONTACTED _____ TIME _____

WISCONSIN PUBLIC SERVICE CORPORATION

Kewaunee Nuclear Power Plant

EMERGENCY PLAN IMPLEMENTING PROCEDURE

NO. EP-AD-10

TITLE: Notification of General Emergency

DATE: OCT 13 1982

PAGE 3 of 9

Technical Support Center Director (TSCD)

Home #

Individual
Pager

Group
Pager

DESIGNATE CONTACTED _____ TIME _____

Support Activities Director (SAD)

DESIGNATE CONTACTED _____ TIME _____

Security Director

DESIGNATE CONTACTED _____ TIME _____

4.1.3. Notify the Emergency Response Manager (ERM)

NOTE: If notified by pager, designate will confirm contact with a return telephone call to

Emergency Response Manager

Home #

Individual Group
Pager Pager

DESIGNATE CONTACTED _____ TIME _____

INITIALS

4.1.4 Notify the state and local governments using the NAWAS phone with the following statement:

Kewaunee Nuclear calling Warning Center 1, East Central Area, Kewaunee County, and Manitowoc County. Please acknowledge.

Wait until all four areas have acknowledged, then continue. If any area fails to acknowledge, ask Warning Center 1 to ring that area.

All areas please take the following message:

This is (title) at the Kewaunee Nuclear Plant. An incident has occurred at our facility and we are declaring a General Emergency at (time) on (date).

There (has/has not) been a radiological release. Off-site consequences are expected. The State Radiological Response Team and key response personnel should be notified and dispatched. Activate Emergency Operations Centers.

We will keep you informed of the situation.

WISCONSIN PUBLIC SERVICE CORPORATION
Kewaunee Nuclear Power Plant
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NO. EP-AD-10

TITLE: Notification of General Emergency

DATE: OCT 13 1982

PAGE 5 of 9

Any confirming calls or return contacts should be through commercial telephone.

To repeat: Kewaunee Nuclear Plant is declaring a General Emergency at (time) on (date). Relay this information to Emergency Government immediately.

Please acknowledge receipt of message.

4.1.5 Notify the United States Coast Guard using commercial telephone lines with the text of the previous message.

Day
Night

COAST GUARD CONTACT _____ TIME _____ INITIALS _____

4.1.6 Notify the NRC (Headquarters, Bethesda) using the Emergency Notification System (ENS) red phone and provide them with the necessary information from a completed Significant Event checklist.
Commercial phone back-up:

NRC CONTACT _____ TIME _____

4.1.7 Perform any additional notifications requested by the Emergency Director.

<u>INITIALS</u>	<u>Group Pager #</u>	<u>Time</u>
_____ Operations Personnel		_____
_____ Inplant Radiation Emergency Team		_____
_____ Emergency Chemistry Team		_____
_____ Site Radiation Emergency Team		_____
_____ Off-site Team		_____
_____ Plant Electricians		_____
_____ I & C Personnel		_____
_____ Plant Mechanics		_____
_____ Fire Team		_____
_____ TSC Personnel		_____

NOTE: If individual pager numbers are needed, reference EP-AD-17 Communications.

4.1.8 Transfer notification function to the Technical Support Center as soon as it has been fully activated and staffed.

TIME _____ INITIALS _____

4.1.9 Transfer the notification of the Coast Guard and State and local agencies to the EOF after it has been fully activated and staffed.

TIME _____ INITIALS _____

4.2 General Emergency De-escalation to Site Emergency, Alert, or Unusual Event

4.2.1 Notify the key emergency directors of the emergency class change.

INITIALS

TIME

_____ Event Operations Director	_____
_____ Radiological Protection Director	_____
_____ Technical Support Center Director	_____
_____ Support Activities Director	_____
_____ Security Director	_____
_____ Emergency Response Manager	_____

4.2.2 Notify the support agencies of the emergency class change.

NOTE: This becomes the responsibility of the EOF staff after EOF activation.

_____ Wisconsin Emergency Operations Center (EOC)

CONTACT _____ TIME _____

_____ State Patrol Fond du Lac, or
East Central Area EOC (if activated)

CONTACT _____ TIME _____

_____ Kewaunee County Sheriff, or
Kewaunee County EOC (if activated)

CONTACT _____ TIME _____

_____ Manitowoc County Sheriff, or
Manitowoc County EOC (if activated)

CONTACT _____ TIME _____

_____ U.S. Coast Guard
CONTACT _____ Day
Night TIME _____

The following message should be given:

This is (title) at the Kewaunee Nuclear Power Plant. Conditions have improved and we have de-escalated the General Emergency to (a Site Emergency/an Alert/an Unusual Event) at (time) on (day). To repeat: The General Emergency has been de-escalated to (a Site Emergency/an Alert/an Unusual Event) at (time) on (day). Relay this information to Emergency Government immediately.

_____ 4.2.3 Notify the NRC of the General Emergency de-escalation with an update of plant conditions.

4.3 General Emergency Close Out

4.3.1 Notify the key emergency directors of the emergency close out.

INITIALS

TIME

- _____ Event Operations Director _____
- _____ Radiological Protection Director _____
- _____ Technical Support Center Director _____
- _____ Support Activities Director _____
- _____ Security Director _____
- _____ Emergency Response Manager _____

4.3.2 Notify the support agencies of the emergency close out.

NOTE: This becomes the responsibility of the EOF staff after EOF activation.

_____ Wisconsin Emergency Operations Center (EOC)

CONTACT _____ TIME _____

_____ State Patrol Fond du Lac, or
East Central Area EOC (if activated)

CONTACT _____ TIME _____

_____ Kewaunee County Sheriff, or
Kewaunee County EOC (if activated)

CONTACT _____ TIME _____

_____ Manitowoc County Sheriff, or
Manitowoc County EOC (if activated)

CONTACT _____ TIME _____

_____ U.S. Coast Guard

Day
Night

CONTACT _____ TIME _____

The following message should be given:

This is (title) at the Kewaunee Nuclear Power Plant. We have closed out the General Emergency at (time) on (day). To repeat: The General Emergency has been closed out at (time) on (day).

This verbal close out will be followed with a written summary within 8 hours.

Relay this information to Emergency Government immediately.

4.3.3 Notify the NRC of the General Emergency close out with an update of plant conditions.

4.4 Final Conditions (one of the following)INITIALS

_____ 4.4.1 The General Emergency has been reclassified as:

- a. An Unusual Event, and EP-AD-7, Notification of an Unusual Event
is being implemented.
- b. An Alert, and EP-AD-8, Notification of an Alert, is being
implemented.
- c. A Site Emergency, and EP-AD-9, Notification of a Site Emergency
is being implemented.

_____ 4.4.2 The General Emergency has been closed out and no recovery operations
are required.

_____ 4.4.3 The recovery phase criteria have been met and the emergency
organization is shifting to a recovery mode, by implementing
EP-AD-15, Recovery Planning.

REVIEWED BY

M L Marchi

APPROVED BY

DMH1.0 APPLICABILITY

This procedure shall be implemented immediately during a Site Emergency or General Emergency and may be executed during an Unusual Event or an Alert at the discretion of the Emergency Director.

2.0 PRECAUTIONS

- 2.1 Assembly Area Coordinators (AAC) and alternates for each assembly area are designated on Table AD-12.1.
- 2.2 Personnel must make the AAC aware of their departure and arrival when changing locations.
- 2.3 AAC's must ensure that hazardous areas are identified and warn personnel of these locations for the determination of the safest routes between Emergency Assembly Areas.
- 2.4 Personnel inside the controlled area should not assemble in their emergency duty location, but report to the controlled area assembly area in accordance with Table AD-12.1.
- 2.5 Only the following personnel may authorize support personnel without Kewaunee I.D. cards access to the site during a plant emergency:

Shift Supervisor

Support Activities Director (SAD)

Emergency Director (ED)

Security Director

Event Operations Director (EOD)

Emergency Response Manager (ERM)

Radiological Protection Director
(RPD)Environmental Protection Director
(EPD)Technical Support Center Director
(TSCD)Administrative/Logistics Director
(ALD)

- 2.6 If a designated AAC or alternate is not present at an assembly area, a senior plant staff member will assume the responsibility.
- 2.7 Personnel outside the controlled area should assemble in their emergency duty location if possible and timely.

3.0 REFERENCES

- 3.1 EP-SEC-3, Personnel Accountability (Initial and Maintaining)

4.0 INSTRUCTIONS

- 4.1 All personnel shall assemble in the locations specified in Table AD-12.1, or their emergency duty locations, upon Gaitronics announcement of Assembly/Accountability.
- 4.2 The AAC shall record the badge ID numbers of each person as they identify themselves. Daily check-in sheets should be available in each area to assist in recording the information.
- 4.3 AAC shall conduct a roll call to verify an accurate muster list.
- 4.4 AAC shall report to the Security Director, the badge ID numbers of personnel at their assembly area location.
- 4.5 Emergency Response Organization Personnel located in other areas may proceed to their appropriate emergency duty locations in the following manner, after initial assembly and accountability.
- 4.6.1 Notify the present AAC of ID no. and location of Emergency Response Facility to be reported to.
- 4.6.2 AAC inform the new emergency response facility to which the individual is going to.
- 4.6.3 If available obtain information on hazardous areas and best route to be traveled from the RPD.
- 4.6.4 Follow predetermined route to new location quickly.
- 4.6.5 Report in immediately to new AAC.
- 4.6.6 The new AAC shall log in arrival of all personnel as they report.
- 4.7 Periodic accountability checks will be performed by the Security Director to ensure continuous accountability of personnel.
- 4.8 If the entire group of assembled personnel are to move to a new location, the AAC shall perform steps 4.6.1 through 4.6.6, to ensure maintenance of accountability continuously.
- 4.9 The Security Director shall post current copies of daily check-in sheets in each primary assembly area in a conspicuous location.

EMERGENCY ASSEMBLY AREAS

GROUP	Primary Assembly Location and Telephone Numbers	Alternate Assembly Locations and Telephone Numbers	Coordinator
Operations Shift Crew	Control Room Phone	Radiation Protection Office Phone	Shift Supervisor or Event Oper. Director
Fire Brigade	Shift Supervisor's Office Phone	Admin. Bldg. Lobby Phone	Fire Brigade Leader
Fire Team	Admin. Bldg. Lobby Phone	Security Bldg. Phone	Fire Team Leader
In-plant HP and Chemistry Emergency Teams, Controlled Area Personnel	Radiation Protection Office Phone	Radiological Analysis Facility Phone	Radiological Protection Director
Containment Personnel	Personnel Airlock Gai-tronics	Emergency Airlock Gai-tronics	Senior HP Technologist or Staff Member
Technical Support Center Staff	Technical Support Center Phone		Technical Support Center Director
Maintenance personnel, visitors, contractors, and personnel with no immediate emergency response duty	Operational Support Facility (Admin. Bldg. Ground Level) Phone		Support Activities Director
Training personnel	Emergency Operations Facility (Trng. Bldg. General Meeting Room) Phone	Site Access Facility Phone	Training Supervisor or Emergency Response Manager
Security Personnel (except CAS officers)	Security Bldg. Phone	Site Access Facility Phone	Security Director or Shift Captain

REVIEWED BY

M. L. Marchi

APPROVED BY

[Signature]

1.0 APPLICABILITY

- 1.1 This procedure describes the communication systems to be used during a plant emergency to:
- Notify onsite personnel
 - Notify emergency response organization personnel
 - Notify Federal, State and local authorities
 - Notify private support agencies

2.0 PRECAUTIONS

- 2.1 All incoming emergency communications should be transferred from the Control Room to the Technical Support Center (TSC) or plant switchboard as soon as possible after emergency declaration.
- 2.2 All messages sent and received shall be documented.
- 2.3 Messages should be repeated to ensure understanding, especially those containing numerical information.
- 2.4 Precede Green Bay pager transmissions with a "1".

3.0 REFERENCES

- 3.1 System Description #44 - Communications.
- 3.2 XK-238 Gai-tronics
- 3.3 WPS P.O. 12589 - Motorola Radio Paging Equipment Instruction Manual
- 3.4 National Warning System (NAWAS) Operations Manual
- 3.5 State of Wisconsin - Division of Emergency Government Warning Plan and Standing Operating Procedures
- 3.6 Procedures for the Emergency Broadcast System - East Central Wisconsin EBS Operational Area
- 3.7 WPSC Public Information Emergency Response Plan
- 3.8 Fluor Power Services, Inc. Emergency Response Plan

3.9 American Nuclear Insurers (ANI) Accident Notification Procedure

3.10 Wisconsin Telephone's Emergency Preparedness Plan in Support of a Nuclear Incident

4.0 RESPONSIBILITIES

4.1 The Emergency Director is responsible for the following notifications.

4.1.1 The required initial notifications.

4.1.2 Additional notifications to support personnel to augment the shift staff.

4.1.3 Follow-up notifications of plant status, emergency escalation or de-escalation and close out.

4.2 The Emergency Response Manager is responsible for the following notifications.

4.2.1 The required initial notifications of corporate response personnel.

4.2.2 Additional notifications to corporate support personnel to augment the corporate response.

4.2.3 Follow-up notification of site conditions, emergency escalation or de-escalation and close out to offsite authorities after Emergency Operations Facility (EOF) activation.

4.3 The Emergency Response Organization directors are responsible for notifying technical personnel and response team members to support their groups duties and functions.

5.0 REQUIREMENTS

5.1 Onsite personnel are notified of a plant emergency using the (PBX) telephone system and the 5-channel Gai-tronics intra-plant paging system. The Control Room and Technical Support Center are equipped with "Night Bells" for after hours incoming calls. The use of these systems is described in System Description #44 Communications. Both systems have non-interruptible power sources.

- 5.2 The required initial notifications are detailed in the respective emergency class notification procedure:

EP-AD-7, Notification of Unusual Event
EP-AD-8, Notification of Alert
EP-AD-9, Notification of Site Emergency
EP-AD-10, Notification of General Emergency

- 5.3 The required initial notifications of corporate response personnel are detailed in:

EP-EOF-3, Corporate Response to an Unusual Event
EP-EOF-4, Corporate Response to an Alert
EP-EOF-5, Corporate Response to a Site Emergency
EP-EOF-6, Corporate Response to a General Emergency

- 5.4 Offsite WPS Emergency Response Organization personnel should be initially contacted by commercial telephone. If the person can not be contacted by telephone, or time does not permit making individual telephone calls, the person's pager should be activated. Office and home telephone numbers, radio-pager activation instructions and two-digit pager codes are contained in Table AD-17.1.
- 5.5 Initial notifications to the State of Wisconsin and Kewaunee and Manitowoc counties shall be made using the NAWAS telephone described in Table AD-17.2.
- 5.6 Follow-up contacts to the State of Wisconsin, Kewaunee and Manitowoc Counties, and initial contacts to the U.S. Coast Guard, INPO, American Nuclear Insurers or other support agencies shall be made using the commercial telephone system. Support agencies telephone numbers are provided in Table AD-17.3.
- 5.7 Initial notification to the U.S. Nuclear Regulatory Commission, Bethesda, MD, will be through the Emergency Notification System (ENS) red phone. ENS phones are located in the Control Room and Technical Support Center. The commercial telephone backup number is
- 5.8 Intra-company communications will be through ring-down circuits and the commercial telephone system. Each Emergency Response Facility (ERF) is furnished with a plant telephone extension listing and diagram detailing ring-down circuits available in that facility.

- 5.9 Communications with plant emergency teams and environmental monitoring teams will be using Motorola two-way radios and the plant transmitter. Remote console stations are located in the Shift Supervisor's office, Radiation Protection Office (RPO), Emergency Operations Facility (EOF) and Site Access Facility (SAF). Each base station has intercom capabilities with each of the other base stations. The RPO station may be relocated in the Radiological Analysis Facility (RAF) if RPO evacuation is necessary. Team designation and base station location should be used in all communications.
- 5.10 Each Emergency Response Organization director should maintain a log detailing:
- a. Changes in plant status or emergency classification
 - b. Actions taken
 - c. Important data received
 - d. Any recommendations made
- 5.11 Messages sent or received should be documented in a communicator's log with information on Form AD-17.

TABLE AD-17.1
EMERGENCY CALL LIST

- 1.0 Tone and Voice Radio Pagers are assigned to Personnel as shown with call numbers on the Emergency Call List.
- 2.0 Whenever it is necessary to contact a person on the Emergency Call List and he is not onsite, the home telephone number should be called first. If he cannot be reached at home, contact should then be attempted by using the group call number. Tone and voice contact by pagers is effective within 15 mile radius of the transmitting station. Only tone contacts can be made outside the 15 mile radius.
- 3.0 How to Place a Page

- 3.1 Determine the two digit pager code for the party or group you wish to contact from the Emergency Call List.

BLACK PHONE ONLY

Located in the Shift Supervisor's office.

NOTE: The Black Phone only activates the Kewaunee transmitter. This phone cannot be used to activate the Green Bay transmitter. To activate the Green Bay transmitter, go to step 3.5 - Plant Extension Phone.

- 3.2 Dial the two digit pager code for the party or group you wish to contact from pager assignment list.
- 3.3 Listen for the acknowledge (beeping) tone, indicating page being transmitted.
- 3.4 When the beeping tone stops, speak your message to the called party. There is no allotment time for calls on this phone. After message, hang up the phone.

PLANT EXTENSION PHONES

- 3.5 Dial the terminal access code on any plant extension.

Kewaunee site transmitter -

Green Bay transmitter -

- a. When the terminal answers and responds with a beep, go to step 3.6.
- b. If you hear a "busy" signal, hang up and try again.

TABLE AD-17.1
EMERGENCY CALL LIST (cont'd)

- 3.6 Dial the two digit pager code for the party or group you wish to contact from the pager assignment list.

NOTE: This number must be preceded by a "1" when using the Green Bay transmitter.

- 3.7 Listen for the acknowledge (beeping) tone, indicating page being transmitted.

- 3.8 When the beeping tone stops, speak your message to the called party. You have about 20 seconds to talk, after which the terminal will hang up. Replace the telephone receiver.

GREEN BAY EXTENSION PHONES

- 3.9 Dial the Kewaunee Plant tie line

- 3.10 Then dial plant extensions:

- a. For Kewaunee site transmitter -
- b. For Green Bay transmitter -

- 3.11 When the terminal answers and responds with a beep, go to step 3.12.

- a. If you hear a "busy" signal, hang up and try again.

- 3.12 Dial the two digit pager code for the party or group you wish to contact from the pager assignment list.

NOTE: This number must be preceded by a "1" for the Green Bay transmitter.

- 3.13 Listen for the acknowledge (beeping) tone, indicating page being transmitted.

- 3.14 When the beeping tone stops, speak your message to the called party. You have about 20 seconds to talk, after which the terminal will hang up. Replace the telephone receiver.

TABLE AD-17.1
EMERGENCY CALL LIST (cont'd)

4.0 Tone and Voice Pager Operation

- 4.1 Set the ON/OFF switch on the bottom of the pager to the ON position (white dot visible). The alert tone will sound to indicate battery condition. If tone is absent, replace or recharge batteries.
- 4.2 Press the reset touch bar on top of the pager. This resets the pager to standby and eliminates the squelch noise.
- 4.3 When you are paged and the alert tone is heard, the voice message is heard automatically. Following the alert tone, volume control can be adjusted for desired level.
- 4.4 After a message, press the reset touch bar to reset the unit.
- 4.5 Key emergency response personnel and their alternates should telephone the plant at _____ after receipt of a pager signal/message to confirm that contact has been made.

TABLE AD-17.1
EMERGENCY CALL LIST (cont'd)

EXTENSION

HOME PHONE

PAGER CODE

Corporate Support Group

TABLE AD-17.1
EMERGENCY CALL LIST (cont'd)

EXTENSION

HOME PHONE

PAGER CODE

Operations Group

TABLE AD-17.1
EMERGENCY CALL LIST (cont'd)

EXTENSION

HOME PHONE

PAGER CODE

Plant Supervisors/STA's Group

TABLE AD-17.1
EMERGENCY CALL LIST (cont'd)

	<u>EXTENSION</u>	<u>HOME PHONE</u>	<u>PAGER CODE</u>
Health Physics Group	---	-----	

Chemistry Group	---	-----	
-----------------	-----	-------	--

Site Team	---	-----	
-----------	-----	-------	--

TABLE AD-17.1
EMERGENCY CALL LIST (cont'd)

	<u>EXTENSION</u>	<u>HOME PHONE</u>	<u>PAGER CODE</u>
Fire Teams	---	-----	
Mechanics	---	-----	

TABLE AD-17.1
EMERGENCY CALL LIST (cont'd)

	<u>EXTENSION</u>	<u>HOME PHONE</u>	<u>PAGER CODE</u>
Electricians	---		

I & C

--- -----

TABLE AD 17.1
EMERGENCY CALL LIST (cont'd)

	<u>EXTENSION</u>	<u>HOME PHONE</u>	<u>PAGER CODE</u>
Environmental Protection Directors	-----	-----	
Environmental Monitoring Team	-----	-----	

TABLE AD-17.2
NAWAS OPERATIONS

- 1.0 The black telephone and loudspeaker located in the Technical Support Center are part of the National Warning System. Points throughout the state as shown in the following drawing can be accessed simultaneously by removing the handset. Messages should be directed to Kewaunee County, Manitowoc County, the East Central Warning Center in Fond du Lac and Wisconsin Warning Center I in Madison.

- 2.0 Telephone operation is achieved by removing the handset and depressing the PUSH-TO-TALK button on the inside of the handset. Messages should be of the form:

"Kewaunee Nuclear calling Warning Center I, East Central Area, Kewaunee County, Manitowoc County. Please acknowledge."

Wait until each area has acknowledged before continuing. If any area fails to acknowledge, request that Warning Center I ring that area and continue:

"Please take the following message. This is (title) at the Kewaunee Nuclear Plant.
(Insert the desired message)
Relay this information to Emergency Government immediately.
Any return contacts or confirming calls should be through commercial telephone.
Please acknowledge receipt of message."

Each area contacted should acknowledge message.

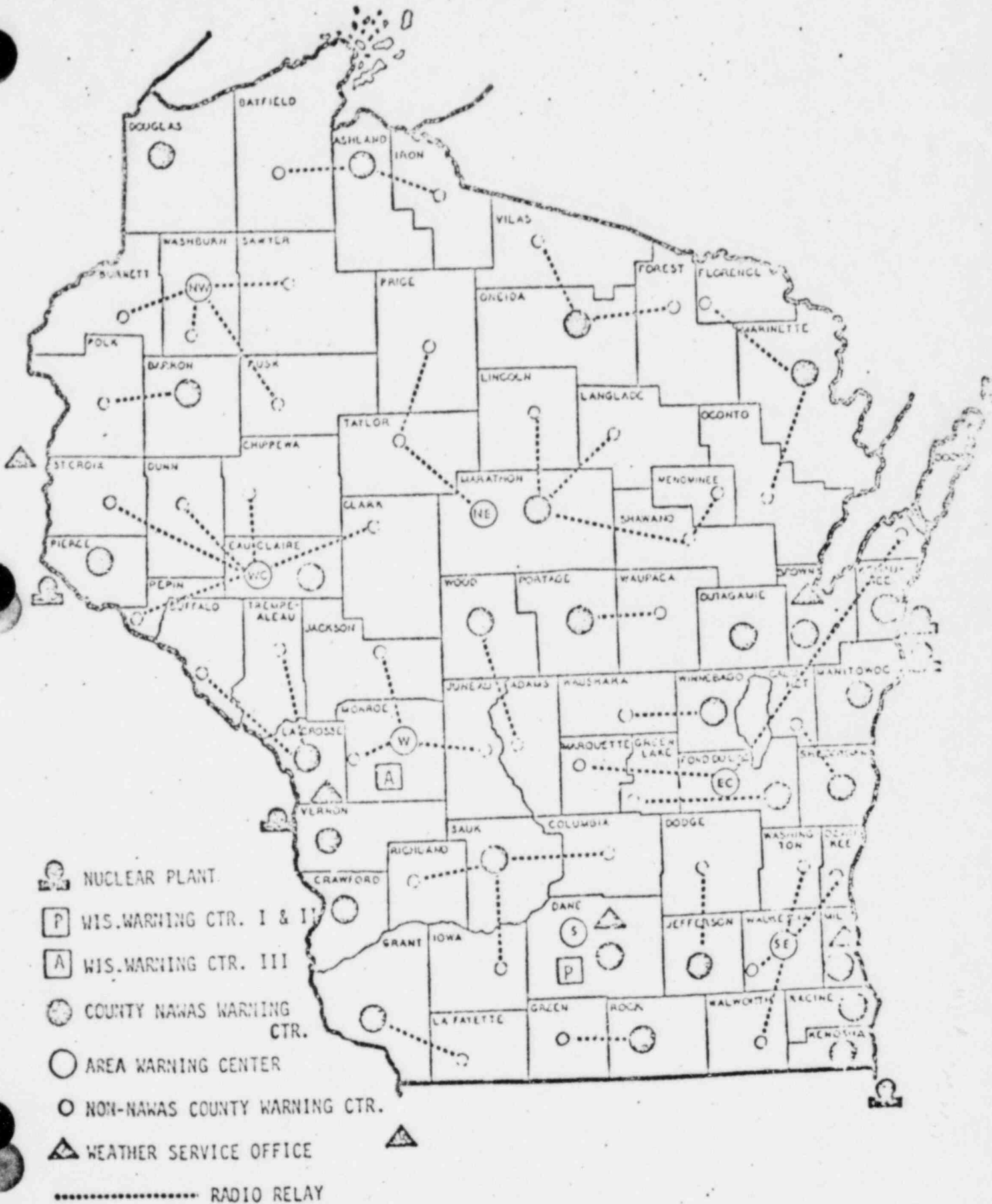


TABLE AD-17.3
Support Agencies - Commercial Phone Numbers

*NOTE: Long Distance Calls must be preceded by a (1)

American Nuclear Insurers

Department of Energy

Day
Night

East Central Area Office of Emergency
Government - Fond du Lac
Fluor Power Services

T.L. Roell, Director

Office
Home

C.E. Agan, Alternate

Office
Home

Hazleton
L.G. Huebner

Office

Home

C. Marucut

Office

Home

Institute of Nuclear Power Operations (INPO)

Kewaunee County (Sheriff's Department)
Kewaunee County Emergency Government (EOC)

Manitowoc County (Sheriff's Department)
Manitowoc County Emergency Government Director
Medical Assistance
Two Rivers Hospital
Dr. Kaner
U.W. Hospital
Dr. Larson

National Weather Service Office (Green Bay)

NRC - Region III - Chicago Operations Office
Point Beach Nuclear Power Plant

Public Service Commission of Wisconsin

RAD Services, Incorporated

State Police - Fond du Lac

U.S. Coast Guard

Day
Night

Westinghouse Bill Johnson

Day
Night

Wisconsin Division of Emergency Government

FORM AD-17
TELEPHONE COMMUNICATIONS LOG SHEET

DATE:	TIME:	INCOMING	OUTGOING
TO:		FROM:	
Message:			
Sent by:			
Received by:			

DATE:	TIME:	INCOMING	OUTGOING
TO:		FROM:	
Message:			
Sent by:			
Received by:			

DATE:	TIME:	INCOMING	OUTGOING
TO:		FROM:	
Message:			
Sent by:			
Received by:			

REVIEWED BY

M. Marchi / T. P. [unclear]

APPROVED BY

C. [unclear]

1.0 APPLICABILITY

Upon the classification of an incident as a Site or General Emergency, or during an Alert if conditions warrant, the Environmental Protection Director (EPD) will execute this procedure.

2.0 PRECAUTIONS

- 2.1 Projected dose rates, concentrations and meteorological conditions must be known prior to dispatching the Environmental Monitoring Teams (EM Teams). Projected dose rates can be obtained via KARL Program and EP-RET-6.
- 2.2 Ensure proper protective actions are taken for the Environmental Monitoring Team members prior to dispatch.
- 2.3 Utilize Field Map with Plexiglass Cover in recording field results.

3.0 REFERENCES

- 3.1 EP-AD-11, Emergency Radiation Controls
- 3.2 EP-RET-2, Emergency Radiation Entry Controls and Implementation

4.0 DIRECTIONS

Environmental Protection Director

- 4.1 If notified by pager, confirm contact with a telephone call to the SAF at
- 4.2 If informed of EOF activation by the ERM:
 - a. Notify members of the Environmental Monitoring Team per Form EOF-3A.1.

NOTE: If unable to contact a sufficient number of personnel from the group by using home or office telephone numbers, activate the pager system per attached Table ENV-3A.2 or call System Operating at _____ and provide your name and title and the names and titles of the individuals you wish to page. Also provide a brief (20 seconds) message to be broadcast over the pagers. System Operating personnel will attempt to contact these individuals via the paging system.

b. Proceed to the EOF via the SAF.

- 4.3 Determine the plume track via EP-ENV-3C, Primary Determination of X/Q, or 3D, Backup Determination of X/Q, as applicable.
- 4.4 Determine the projected environmental dose via EP-ENV-3E, Manual Environmental Dose Projection Calculations, or via EP-RET-6, Dose Projections (Computer), if applicable.
- 4.5 Determine Protective Actions needed via EP-ENV-3F, Protective Action Recommendation Determinations.

NOTE: See Decision Flow Chart, Figure 3A.1.

- 4.6 Maintain a log of all significant events reported and directed.

5.0 PERSONNEL DISPATCH

- 5.1 Evaluate the radiological consequences in consultation with the Radiological Protection Director (RPD) from the above data and advise Environmental Monitoring Teams accordingly of the appropriate protective actions.

- 5.2 Dispatch Environmental Monitoring Teams, via the Environmental Monitoring Team Coordinator, to the projected plume path as follows:

NOTE: As Form ENV-3A.2 is initiated for Tracking EM Team Sampling, record Dose Projections (ENV-3E) for the sample points on the form.

- 5.2.1 One team to sample at a predetermined sample point, TABLE ENV-3A, near the projected centerline.
- 5.2.2 Another team to sample at a predetermined sample point, TABLE ENV-3A, near the projected edges.

NOTE: If lake breeze effect exists as determined in EP-ENV-3C or 3D, refer to step 6.0 for guidance in directing environmental monitoring teams.

- 5.2.3 Record the locations on Form ENV-3A.2, using Base Map sector designate and predetermined sample location number.

EXAMPLE: Log: Sector "A" at "point 122"

- 5.3 Record the following data for each environmental sample location on Form ENV-3A, when received from EMT Coordinator.

- 5.3.1 Date and Time results received.
 - 5.3.2 Direct radiation readings.
 - 5.3.3 Particulate activity.
 - 5.3.4 I-131 concentration.
 - 5.3.5 Noble gas concentration.
 - 5.4 Mark the results on the plexiglass covered field maps.
 - 5.5 Transmit to the Technical Support Center Communicator the most current data recorded on field maps.
 - 5.6 Redirect the Environmental Monitoring Teams to take subsequent samples as necessary.
 - 5.7 Transmit the measured data, and any plume track changes, to the Radiological Protection Director promptly.

NOTE: Meteorological conditions should be checked periodically.
 - 5.8 Direct the Environmental Monitoring Team Coordinator to take appropriate action for the collection and storage of all environmental samples at the Site Access Facility.
 - 5.9 Continue to update plume path sample results on the Field Map as results are reported.
 - 5.10 Review and update X/Q determinations (EP-ENV-3C or 3D) as meteorological conditions warrant.
 - 5.11 Transmit results and recommendations to the Emergency Response Manager.
- 6.0 EFFECT OF LAKE BREEZE ON PROJECTED EXPOSURES
- 6.1 Actual dose rates west of the Lake Breeze "front" (where the lake breeze meets the prevailing wind) will be lower than projected using X/Q or Xu/Q overlays.
 - 6.2 Exposure from the plume may occur in areas not encompassed by the X/Q or Xu/Q overlays since the plume is directed back toward the lake in the direction of the prevailing wind.

6.3 Monitoring Considerations

A method for determining the location of the Lake Breeze front is under development. Until this method is available, the following guidelines should be followed in order to determine the radiological effects of the lake breeze on the plume track.

- 6.3.1 The Team dispatched to sample at the projected plume edge should first sample the edge downwind of the centerline in relation to the prevailing wind. This Team should then sample at the population centers within the 10 mile EPZ downwind of the projected plume in the direction of the prevailing wind.
- 6.3.2 The Team dispatched to sample the centerline should first sample the centerline as directed by the EPD, then sample the plume edge upwind of the centerline in relation to the prevailing wind.

NOTE: See Figure ENV-3A.2.

FIGURE ENV-3A.1
DECISION FLOW CHART

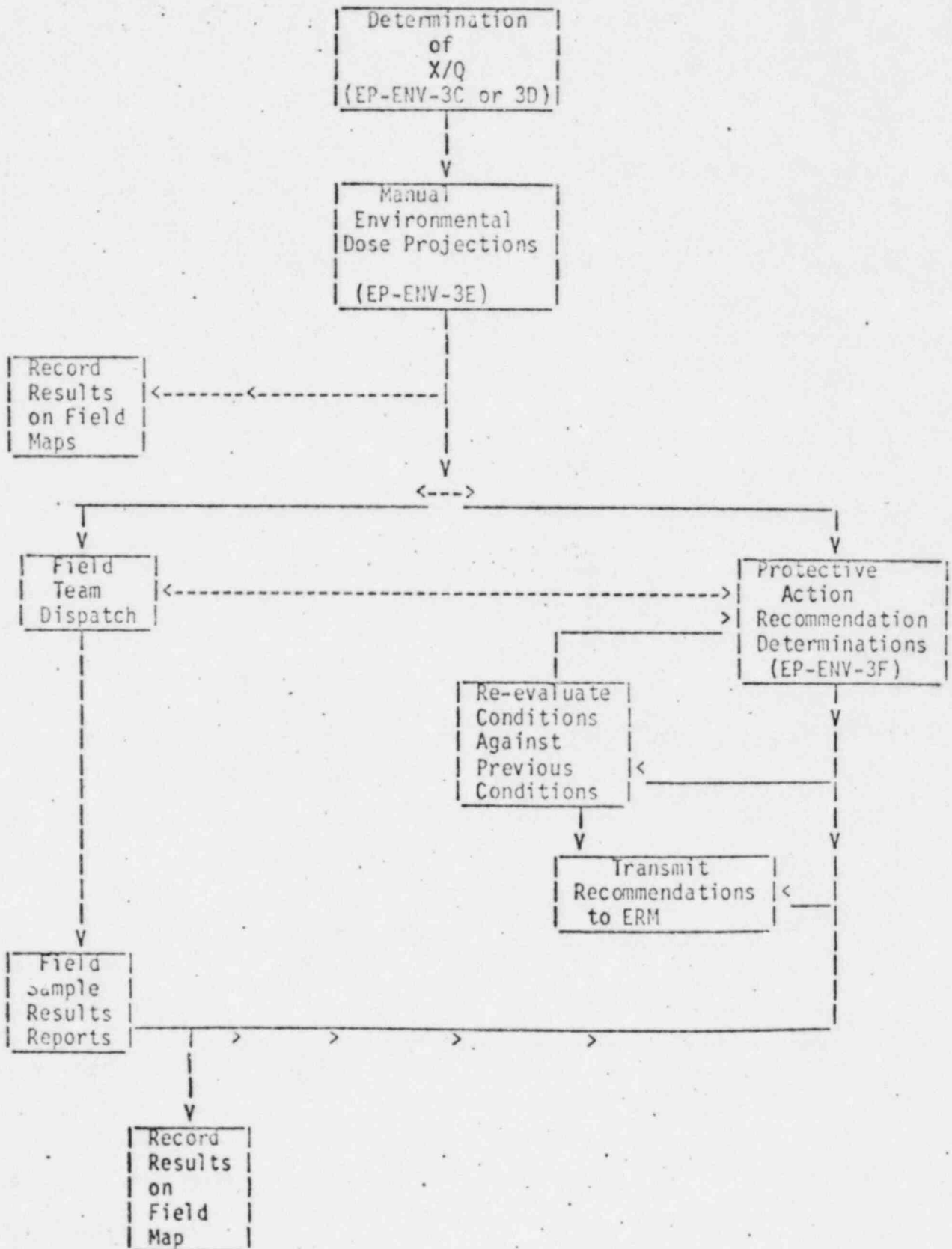
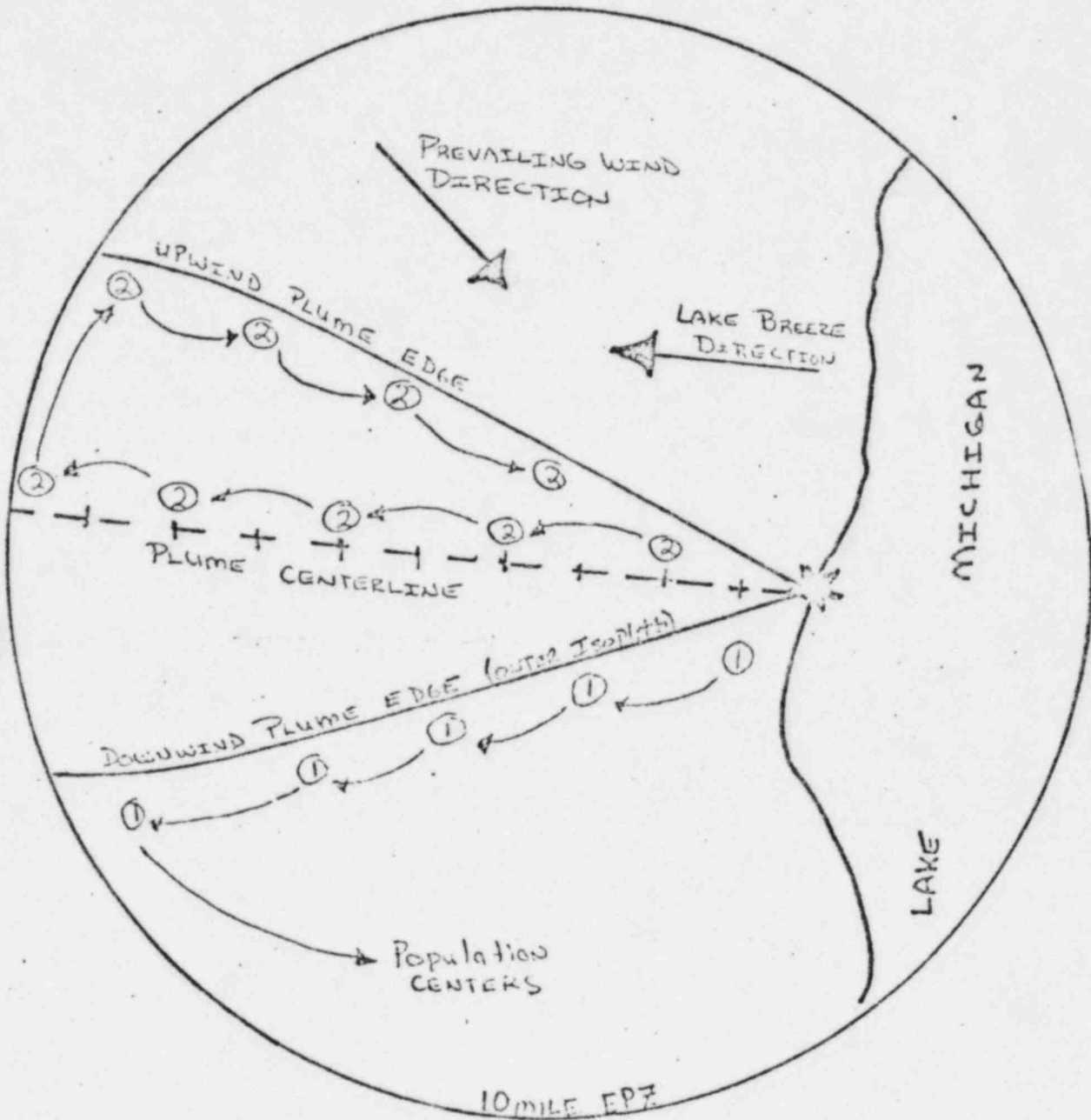


FIGURE ENV-3A.2
LAKE BREEZE EFFECTS DIAGRAM



1. Team Dispatched to Sample Plume Edge
2. Team Dispatched to Sample Centerline

NOTE: This Drawing is for Illustration Only.
The Actual sampling points are designated by the Environmental Protection Director.

TABLE ENV-3A.1

TLD MONITORING AND SAMPLING LOCATIONS
(1 of 7)

1. Lake Shore Rd (M) 1/4 mile north of Zander Rd
2. Lake Shore Rd (M) 1/4 mile south of Two Creeks Rd
3. Hwy 42 1/4 mile North of Two Creeks Rd Intersection
4. Two Creeks Rd 3/4 mile west of Hwy 42, 1/4 mile N. on Blaha Road
5. County BBB and County BB Intersection
6. County BBB 1/2 mile south of BB
7. 3/4 mile west and 1/2 mile south of County Hwys. BB and BBB inersection (trailer park
8. County BB 1/4 mile east of Saxonburg Rd
9. County BB 1/2 mile east of State Hwy 163
10. County B 1/4 mile north of Zander Rd
11. Saxonburg Rd 1/2 mile north of Zander Rd
12. Two Creeks Rd 1/2 mile west of Saxonburg Rd
13. Two Creeks Rd 1/4 mile east of State Hwy 63
14. Two Creeks Rd 1/2 mile east of Saxonburg Rd
15. Tannery Rd 3/4 mile north of Tappawingo Rd
16. Access Rd off of Tappawingo Rd 1/4 mi. S of Tannery Rd
17. Tappawingo Rd 3/4 mile west of Tannery Rd
18. Tappawingo Rd 1/4 mile west of Saxonburg Rd
19. Tappawingo Rd 1/4 mile west of State Hwy 63
20. Tappawingo rd and Jambo Creek Rd Intersection
21. Jambo Creek Rd 1/4 mile north of Holmes Rd
22. County Hwy BB 1/2 mile west of State Hwy 163
23. Lakeshore Rd (M) 1/4 mile north of Nuclear Rd (M)
24. Nuclear Rd (M) 1/2 mile eas of State Hwy 42

(K) - Kewaunee County
(M) - Manitowoc County

TABLE ENV-3A.1 (cont'd)
(2 of 7)

- I 25. Lakeshore Rd (M) and Nuclear Rd (M) Intersection
26. Irish Rd 1/4 mile east of Meyer Rd
- I 27. State Hwy 177 1/4 mile west of County Hwy. 0
28. Elmwood Rd and Ravine Rd Intersection
29. Tannery Rd 1/4 mile north of Elmwood Rd
- I 30. 1/4 mile east of County Hwy V and State Hwy 42 Intersection
31. State Hwy 42 1/2 mile north of Irish Rd
- I 32. Benzinger Rd 1/4 mile west of Tannery Road
33. County Hwy V and Saxonburg Rd Intersection
34. Corners Rd and Division Dr. Intersection
35. State Hwy 42 1/4 mile north of Rawley Rd
- I 36. South entrance road to Point Beach State Park, 1/4 mile east of County Hwy. 0
- I 37. Nuclear (M) 3/4 mile west of Tannery Rd
- I 38. 1/4 mile south and 1/4 mile west of Saxonburg Rd and Nuclear Rd (M) Intersection
39. Tappawingo Rd 0.1 mile east of State Hwy 42
40. State Hwy 163 and State Hwy 147 Intersection
41. Prince Rd 1/4 mile north of Rockledge Rd
42. Jumbo Creek Rd 1/4 mile north of Rockledge Rd
43. County Hwy Q and Intersection with Factory Rd
44. County Hwy Q 1/4 mile north of Zander Rd
- I 45. County Hwy BB 0.4 mile east of Harpt Lake Rd
- I 46. Nuclear Rd (K) 0.4 mile west of State Hwy 42
47. Nuclear Rd (K) 1/2 mile west of Hwy 42
- I 48. County Hwy BB and state Hwy 42 Intersection
- I 49. German Lane 1/4 mile west of State Hwy. 42

{K} = Kewaunee County
{M} = Manitowoc County

TABLE ENV-3A.1 (cont'd)
(3 of 7)

50. State Hwy 42 1/4 mile south of Nuclear Rd (K)
51. State Hwy 42 and Nuclear Rd (K) Intersection
52. State Hwy 42 and Nuclear Rd (K) Intersection
53. State Hwy 42 and Intersection of Nuclear Rd (K)
54. State Hwy 42 0.4 mile north of Nuclear Rd (K)
55. State Hwy 42 1/4 mile south of Sandy Bay Rd
56. State Hwy 42 and Intersection of Sandy Bay Rd
57. Sandy Bay Rd and Intersection of Cemetary Rd
- I 58. Cemetary Rd 1/4 mile north of Sandy Bay Rd.
59. Lake shore Rd (K) and Interection of Cemetary Rd
60. Lake Shore Rd (K) 1/2 mile east of State Hwy 42
61. Lake Shore Rd (K) and State Hwy 42 Intersection
62. Lake Shore Rd (K) 1/2 mile west of State Hwy 42
63. Sandy Bay Rd 1/2 mile west of State Hwy 42
64. Sandy Bay Rd and Intersection of Woodside Rd
65. Woodside Rd 1/2 mile north of Nuclear Rd (K)
66. Woodside Rd and Intersection of Nuclear Rd (K)
67. Woodside Rd 1/4 mile south of Nuclear Rd (K)
- I 68. Woodside Rd 3/4 mile north of County Hwy BB
69. Town Hall Rd 1/4 mile north of County Hwy BB
- I 70. Town Hall Rd 1/4 mile north of Nuclear Rd (K)
- I 71. Town Hall Rd 3/8 mile south of Sandy Bay Rd
72. Town Hall Rd 1/2 mile south of County Hwy G
73. County Hwy G 1/2 mile east of town Hall Rd

(K) - Kewaunee County
(M) - Manitowoc County

TABLE ENV-3A.1 (cont'd)
(4 of 7)

- 74. Woodside Rd and County Road G Intersection
- 75. Old Settlers Rd and Cemetary Rd Intersection
- 76. Old Settlers Rd and Hwy 42 Intersections
- 77. Old Settlers Rd 1/4 mile east of Woodside Rd
- | 78. Woodside Rd. 1/2 mile south of Old Settlers Road
- | 79. Old Settlers Rd. and Town Hall Road Intersection
- | 80. Norman Road 1/4 mile north of County Hwy. G
- | 81. County Hwy B 1/4 mile west of Norman Rd
- 82. Saint Peters Rd 1/4 mile north of Old Settlers Rd
- | 83. Wochos Rd and intersection of Old settlers Rd
- 84. North Intersection of Range Line Rd and County Hwy G
- 85. County Hwy B 1/4 mile north of County Hwy. G
- 86. Norman Rd 1/4 mile north of Sandy Bay Rd
- 87. Sandy Bay Rd and Intersection of Saint Peters Rd
- | 88. County Hwy B 1/2 mile south of Sandy Bay Rd
- 89. Nuclear Rd (K) 1/2 mile east of Range Line Rd
- 90. Nuclear Rd (K) and Norman Rd Intersection
- 91. Norman Rd 1/4 mile north of County Hwy BB
- 92. County Hwy B 1/4 mile north of County hwy BB
- 93. Range Line Rd 1/4 mile north of County hwy BB
- 94. Collegiate Rd 1/2 mile west of Range Line Rd
- 95. State Hwy 163 1/4 mile west of Sleepy Hollow Rd
- 96. Bolt Rd and County Hwy Q intersection
- 97. Bolt Rd 1/4 mile west of Collegiate Rd
- 98. Knutson Rd and State Hwy 96 Intersection
- 99. Manitowoc Rd and Langes Corners Rd Intersection

(K) - Kewaunee County

(M) - Manitowoc County

TABLE ENV-3A.1 (cont'd)
(5 of 7)

100. State Hwy 163 1/4 mile south of Old Settlers Rd
101. County Hwy J 1/4 mile west of State Hwy 163
102. Sleepy Hollow Rd and Kassner Rd Intersection
103. Church Rd 1/2 mile north of County Hwy J
104. Saint Peters Rd and Town Line Rd Intersections
105. County hwy B 1/4 mile South of County Hwy J
106. County Hwy J 1/4 mile west of Town Hall Rd
107. Town Hall Rd and Town Line Rd Intersections
108. Town Line Rd 1/2 mile west of Woodside Rd
109. Town Line Rd and State Hwy 42 Intersection
110. Town Line Rd 0.3 mile east of Mile Rd
111. Lake Rd 1/2 mile east of State Hwy 42
112. County hwy J mile west of State Hwy 42
113. County hwy J 1/2 mile east of Town Hall Rd
114. Krok Rd 1/4 mile west of Sleepy Hollow Rd
115. Krok Rd 1/4 mile west of Church Rd
116. Krok Rd 1/4 mile east of Saint Peters Rd
117. 1/4 mile south of Angle Rd and Krok Rd Intersections
118. State Hwy 42 1/4 mile south of Hospital Rd
119. State Hwy 42 3/4 mile south of County hwy F
120. County Hwy C 1/2 mle west of Kewaunee City
121. County Hwy C 1/2 mile north of County Hwy F
122. Birchwood Rd and County Hwy F Intersection
123. Lilac Lane 1/4 mile north of County F

(K) - Kewaunee County
(M) - Manitowoc County

TABLE ENV-3A.1 (cont'd)
(6 of 7)

- 124. State Hwy 29 and County hwy B Intersection
- 125. Church Rd 1/4 mile north of State Hwy 29
- 126. Town Hall Rd 1/2 mile south of State Hwy 29
- 127. Angle Rd 1/4 mile south of State Hwy 29
- I 128. Hospital Rd 3/4 mile north of State Hwy 42
- I 129. East end of Krok Rd, along the Lakeshore
- 130. Old Settlers Rd 1/2 mile east of Twon Hall Rd
- I 131. 1204 Milwaukee St., Kewaunee
- I 132. County Hwy. O, 1 1/2 miles south of County Hwy. VV
- 133. Lake Shore Rd. 1/2 mile north of Kewaunee City
- I 134. Lakeshore Rd (K) 1/2 mile north of First Road (Barnett Sub.)
- 135. County Hwy F 1 1/4 miles west of State Hwy 42
- 136. Maple Lane 1/2 mile west of County Hwy C
- 137. Church Rd and Town Line Rd Intersection (northeast of Ellisville)
- 138. Sleepy Hollow Rd 1/4 mile north of Hwy 29
- 139. Reckelberg Rd 1/4 mile south of Krok Rd
- 140. Schweiner Rd 1/2 mile south of County hwy J
- 141. Schultz Rd and State Hwy 96
- 142. Lyons Rd 1/4 mile south of Zander Rd
- 143. County hwy Q 1/4 mile north of State Hwy 147
- 144. Fisherville Rd and Cherney Rd Intersection
- I 145. Steiners Corners Rd. 1/2 mile west of State Hwy. 147

(K) - Kewaunee County

M/ - Manitowoc County

TABLE ENV-3A.1 (cont'd)
(7 of 7)

- | 146. Meadow Dr. 1/4 mile north of E. Hillcrest Rd.
- | 147. County Hwy. 0 1/2 mile south of County Hwy. VV
- | 148. Coast Guard Station, Two Rivers
- | 149. WPS Operations Building, Two Rivers
- | 150. City Hall Roof, Manitowoc

Table ENV-3A.2
PAGING SYSTEM OPERATION

- A.1 Tone and Voice Radio Pagers are assigned to personnel as shown with call numbers on the Emergency Call List.
- A.2 Whenever it is necessary to contact a person on the Emergency Call List and he is not on site, the home telephone number should be called first. If he cannot be reached at home, contact should then be attempted by using the person's individual call number. A group of individuals may be contacted by using the group call number. Tone and voice contact by pagers is effective within a 15 mile radius of the transmitting station. Only tone contacts can be made outside the 15 mile radius.

A.3 How to Place a Page

- 3.1 Determine the two digit pager code for the party or group you wish to contact from the pager assignment list.

PLANT EXTENSION PHONES

- 3.2 Dial the terminal access code on any plant extension.
- Kewaunee site transmitter -
- Green Bay transmitter -
- a. When the terminal answers and responds with a beep, go to step 3.3.
- b. If you hear a "busy" signal, hang up and try again.
- 3.3 Dial the two digit pager code for the party or group you wish to contact from the pager assignment list.

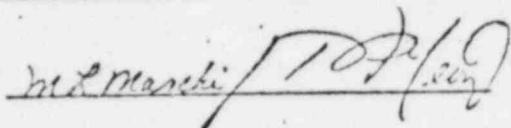
NOTE: This number must be preceded by a "1" when using the Green Bay transmitter.

- 3.4 Listen for the acknowledge (beeping) tone, indicating page being transmitted.
- 3.5 When the beeping tone stops, speak your message to the called party. You have about 20 seconds to talk. A "click" signals that your allotted time has expired.

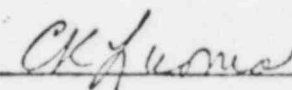
TABLE ENV-3A.2 (cont'd)GREEN BAY EXTENSION PHONES

- 3.6 Dial:
- a. For Kewaunee site transmitter -
 - b. For Green Bay transmitter -
- 3.7 When the terminal answers and responds with a beep, go to step 3.8.
- a. If you hear a "busy" signal, hang up and try again.
- 3.8 Dial the two digit pager code for the party or group you wish to contact from the pager assignment list.
- NOTE: This number must be preceded by a "1" when using the Green Bay transmitter.
- 3.9 Listen for the acknowledge (beeping) tone, indicating page being transmitted.
- 3.10 When the beeping tone stops, speak your message to the called party. You have about 20 seconds to talk. A "click" signals that your allotted time has expired.

REVIEWED BY



APPROVED BY



1.0 APPLICABILITY

This procedure is used to estimate the atmospheric dispersion factor (X/Q) using Kewaunee Nuclear Power Plant Meteorological Data.

2.0 PRECAUTIONS

- 2.1 As a minimum, the following meteorological parameters from the Kewaunee Nuclear Power Plant Meteorological tower are required to use this procedure.
- One wind speed indication (55 meter elevation or 11 meter elevation).
 - One wind direction indication (55 meter elevation or 11 meter elevation).
 - Vertical Temperature Difference indication (Delta T between 55 meters and 11 meters).

If this minimum data is not available, use EP-ENV-3D, Backup Determination of X/Q (Green Bay Meteorological Data), to determine atmospheric dispersion.

- 2.2 Meteorological data must be re-evaluated every 30 minutes or whenever significant changes occur, to determine if X/Q must be recalculated.
- 2.3 When determining X/Q or Xu/Q for a point of interest that falls between two isopleths on an overlay, select the value of X/Q or Xu/Q that corresponds to the isopleth lying closest to the plume centerline.

If a point of interest lays between an isopleth and plume centerline, select the value of X/Q or Xu/Q that corresponds to the nearest mile marker on the centerline.

- 2.4 The WIND DIRECTION CIRCLE on the Base Map may appear to the user to be shifted 180 degrees. This is not an error. The WIND DIRECTION CIRCLE reflects the direct use of wind direction information.

3.0 REFERENCES

- 3.1 NRC Regulatory Guide 1.145, Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants, August 1979.
- 3.2 NRC Regulatory Guide 1.23, Rev 1 (Proposed), Meteorological Programs In Support of Nuclear Power Plants, September 1980.

4.0 INSTRUCTIONS

- 4.1 Record Meteorological Parameters Section I on Form ENV-3C.1, Meteorological Data Worksheet.
- 4.2 Determine the stability class using the Vertical Temperature Difference (item I-E on Form ENV-3C.1) and the table in Section II of Form ENV-3C.1).
- 4.3 Determine release elevation from Section III of Form ENV-3C.1.
- 4.4 For Elevated Releases complete steps 4.4.1 through 4.4.8. If the release is ground level, proceed to step 4.5.
 - 4.4.1 Place the elevated overlay for the stability class determined in step 4.2 on the Base Map.
 - 4.4.2 Align the centerline of the overlay with the actual wind direction value from WD55 (item I-A on Form ENV-3C.1) on the Base Map Wind Direction Circle.

NOTE: If WD55 value is not available, use WD11 value.
 - 4.4.3 Record points of interest in the path of the plume in column 1 on Form ENV-3C.2 and record the corresponding sector in column 2.
 - 4.4.4 Determine the distance from the release point to each point of interest and record in column 3 of Form ENV-3C.2 (Base Map Scale: 2 inches = 1 mile).
 - 4.4.5 Record wind speed WS55 in column 4 of Form ENV-3C.2 (Wind Speed is the same for all points of interest).

NOTE: If WS55 is not available, use WS11 value.
 - 4.4.6 Calculate impact time (IT) using the formula on Form ENV-3C.2 and record in column 5.
 - 4.4.7 Determine X/Q for each point of interest from the overlay and record in column 7 of Form ENV-3C.2.
 - 4.4.8 Proceed to step 4.6 (step 4.5 is not required for elevated releases).

- 4.5 For Ground Level Releases, complete steps 4.5.1 through 4.5.8.
- 4.5.1 Place the ground level overlay for the stability class determined in step 4.2 on the Base Map.
- 4.5.2 Align the centerline of the overlay with the actual wind direction value from WD11 (item I-B on Form ENV-3C.1) on the Base Map Wind Direction Circle.
- NOTE: If WD11 is not available, use WD55 value.
- 4.5.3 Record points of interest in the path of the plume in column 1 of Form ENV-3C.2 and record the corresponding sector in column 2.
- 4.5.4 Determine the distance from the release point to each point of interest and record in column 3 of Form ENV-3C.2 (Base Map Scale: 2 inches = 1 mile).
- 4.5.5 Record wind speed WS11 in column 4 of Form ENV-3C.2 (Wind Speed is the same for all points of interest).
- NOTE: If WS11 is not available, use WS55 value.
- 4.5.6 Calculate impact time (IT) using the formula on Form ENV-3C.2 and record in column 5.
- 4.5.7 Determine X_u/Q for each point of interest from the overlay and record in column 6 of Form ENV-3C.2.
- 4.5.8 Calculate X/Q for each point of interest using the formula on Form ENV-3C.2 and record in column 7.
- 4.6 Determine if lake breeze exists using Form ENV-3C.2. If lake breeze conditions exist, implement special field monitoring in accordance with EP-ENV-3A, section 6.0.

FORM ENV-3C.1

METEOROLOGICAL DATA WORKSHEET

DATE _____ TIME _____

I. Meteorological Parameters

<u>Parameter Description</u>	<u>Parameter Name</u>	<u>Parameter Indication</u>
A. Wind Direction at 55 meter level	WD55	_____ Degrees
B. Wind Direction at 11 meter level	WD11	_____ Degrees
C. Wind speed at 55 meter level	WS55	_____ mph x 0.447 = _____ m/sec
D. Wind speed at 11 meter level	WS11	_____ mph x 0.447 = _____ m/sec
E. Vertical Temperature Difference (°F @ 55m - °F @ 11 m)	VTD	_____ °F

II. Stability Class

Use below table and VTD to determine stability class.

<u>VTD (of/44m)</u>	<u>Stability Class</u>
VTD < -1.5	A
-1.5 < VTD < -1.3	B
-1.3 < VTD < -1.2	C
-1.2 < VTD < -0.4	D
-0.4 < VTD < 1.2	E
1.2 < VTD < 3.2	F
3.2 < VTD	G

STABILITY CLASS _____

III. Release Elevation

An Elevated release must meet all of the below criteria, otherwise the release is considered Ground Level.

- a. Primary to Secondary Leak is in progress.
- b. Release is from Steam Generator Safety Valves, Steam Generator Power Operated Relief Valve or Auxiliary Feed Pump Turbine Exhaust.
- c. Wind speed is less than 1m/sec.
- d. Stability class is A, B, C or D.

_____ Elevated _____ Ground Level

FORM ENV-3C.2

RELEASE WORKSHEET

DATE _____ TIME _____

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Point of Interest	Sector	(D) Distance (miles)	(WS) Wind Speed (meters/sec)	(TT)* Impact Time (minutes)	Xu/Q** (meters ⁻²)	X/Q*** (sec/meters ³)
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

* IT = D/WS x 27

** N/A for Elevated Release

*** When calculating for Ground Level Release: $X/Q = \frac{(Xu/Q)}{WS}$

FORM ENV-3C.3

LAKE BREEZE EFFECT WORKSHEET

DATE _____ TIME _____

I. Is local wind direction (WD11 from Form 3D.1 or WD55 if WD11 is not available) between 20° and 170° clockwise?

No - No lake breeze effect

Yes - Proceed to Step II

II. Call Green Bay National Weather Station and get wind direction in degrees.

(Phone Number _____)

Wind Direction _____

III. Is Green Bay wind direction between 210° and 330° clockwise?

No - No lake breeze effect

Yes - Lake breeze effect

REVIEWED BY

M. L. Marchi / *J. P. [unclear]*

APPROVED BY

C. Luoma

1.0 APPLICABILITY

This procedure is used to estimate the atmospheric dispersion factor (X/Q) using Green Bay National Weather Service Meteorological Data when Kewaunee Nuclear Power Plant Meteorological Data is not available.

2.0 PRECAUTIONS

2.1 This procedure is to be used only when the following minimum meteorological parameters are not available from the Kewaunee Nuclear Power Plant Meteorological tower.

- a. One wind speed indication (55 meter elevation or 11 meter elevation).
- b. One wind direction indication (55 meter elevation or 11 meter elevation).
- c. Vertical Temperature Difference indication (Delta T between 55 meters and 11 meters).

If this minimum data is available, use ENV-EP-3C, Primary Determination of X/Q (KNPP Meteorological Data), to determine the atmospheric dispersion factor.

2.2 Meteorological data must be re-evaluated every 30 minutes or whenever significant changes occur, to determine if X/Q must be recalculated.

2.3 When determining Xu/Q for a point of interest that falls between two isopleths on an overlay, select the value of Xu/Q that corresponds to the isopleth lying closest to the plume centerline.

If a point of interest lays between an isopleth and plume centerline, select the value of Xu/Q that corresponds to the nearest mile marker on the centerline.

2.4 The WIND DIRECTION CIRCLE on the Base Map may appear to the user to be shifted 180 degrees. This is not an error. The WIND DIRECTION CIRCLE reflects the direct use of wind direction information.

3.0 REFERENCES

- 3.1 NRC Regulatory Guide 1.145, Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants, August 1979.

3.2 NRC Regulatory Guide 1.23, Rev 1 (Proposed), Meteorological Programs In Support of Nuclear Power Plants, September 1980.

4.0 INSTRUCTIONS

- 4.1 Call the National Weather Service Station at Green Bay for meteorological parameters I.A, B, C and D on Form ENV-3D.1
- 4.2 Call Point Beach Nuclear Plant for meteorological parameters II.A & B on Form ENV-3D.1.
- 4.3 Determine the stability class from step III of Form ENV-3D.1.
- 4.4 Place the ground level overlay for the stability class determined in step 4.3 on the Base Map.
- 4.5 Align the centerline of the overlay with the wind direction value on the base map wind direction circle.

NOTE: Use local wind direction if available. Use Green Bay wind direction (parameter I.A on Form ENV-3D.1), if not available at the plant.

- 4.6 Record points of interest in the path of the plume in column 1 of Form ENV-3D.2 and record the corresponding sector in column 2.
- 4.7 Determine the distance from the release point to each point of interest and record in column 3 of Form ENV-3D.2 (Base Map Scale: 2 inches = 1 mile).
- 4.8 Record local wind speed (parameter II.B on Form ENV-3D.1) in m/sec in column 4 of Form ENV-3D.2 (wind speed is the same for all points of interest).

NOTE: If local wind speed is not available, use Green Bay wind speed (parameter I.B on Form ENV-3D.1).

- 4.9 Calculate impact time (IT) using the formula on Form ENV-3D.2 and record in column 5.
- 4.10 Determine X_u/Q for each point of interest from the overlay and record in column 6 of Form ENV-3D.2.
- 4.11 Calculate X/Q using the formula on Form ENV-3D.2 and record in column 7.
- 4.12 Determine if lake breeze exists using Form ENV-3D.3. If lake breeze conditions exist, implement special field monitoring in accordance with EP-ENV-3A, section 6.0.

FORM ENV-3D.1
METEOROLOGICAL DATA WORKSHEET

DATE _____ TIME _____

I. Meteorological Parameters (Green Bay)

Parameter Description	Parameter Name	Parameter Indication
A. Wind Direction	WD(GB)	_____ Degrees
B. Wind Speed	WS(GB) _____ Knots x 0.515 =	_____ meters/sec
C. Opaque Cloud Cover	CLCYR	_____ (tenths)
D. Cloud Ceiling	CLCEG	_____ (feet)
E. Observation Time of above		_____ (time)

II. Meteorological Parameters (Point Beach)

A. Wind Direction	WD(PB)	_____ Degrees
B. Wind Speed	WS(PB) _____ mph x 0.447 =	_____ meters/sec

III. Stability Class

A. Determine the Insolation Class Number (INCLNO) from the below table.

_____ INCLNO

DATE	HOUR OF DAY From/To (Military Time)*													
	0001	0601	0701	0801	0901	1001	1101	1201	1301	1401	1501	1601	1701	2401
1/5-1/22	1	1	1	1	2	2	2	2	2	1	1	1	1	
1/23-2/6	1	1	1	1	2	2	2	2	2	1	1	1	1	
2/7-2/21	1	1	1	2	2	2	2	2	2	2	1	1	1	
2/22-3/8	1	1	1	2	2	2	3	2	2	2	1	1	1	
3/9-3/23	1	1	2	2	2	3	3	3	2	2	2	1	1	
3/24-4/7	1	1	2	2	3	3	3	3	3	2	2	1	1	
4/8-4/22	1	1	2	3	3	3	3	3	3	3	2	1	1	
4/23-5/7	1	2	2	3	3	3	3	3	3	3	2	2	1	
5/8-5/22	1	2	2	3	3	3	4	3	3	3	2	2	1	
5/23-6/6	1	2	2	3	3	4	4	4	3	3	2	2	1	
6/7-6/21	1	2	2	3	3	4	4	4	3	3	2	2	1	
6/22-7/6	1	2	2	3	3	4	4	4	3	3	2	2	1	
7/7-7/21	1	2	2	3	3	4	4	4	3	3	2	2	1	
7/22-8/5	1	2	2	3	3	3	4	3	3	3	2	2	1	
8/6-8/20	1	2	2	3	3	3	3	3	3	3	2	2	1	
8/21-9/4	1	1	2	3	3	3	3	3	3	3	2	1	1	
9/5-9/19	1	1	2	2	3	3	3	3	3	2	2	1	1	
9/20-10/4	1	1	2	2	2	3	3	3	2	2	2	1	1	
10/5-10/19	1	1	1	2	2	2	3	2	2	2	1	1	1	
10/20-11/3	1	1	1	2	2	2	3	2	2	2	1	1	1	
11/4-11/18	1	1	1	2	2	2	2	2	2	2	1	1	1	
11/19-12/3	1	1	1	1	2	2	2	2	2	1	1	1	1	
12/4-12/18	1	1	1	1	2	2	2	2	2	1	1	1	1	
12/19-1/4	1	1	1	1	2	2	2	2	2	1	1	1	1	

* If daylight savings time is in effect, subtract 1 hour from local time.

FORM ENV-3D.1 (cont'd)
 METEOROLOGICAL DATA WORKSHEET

DATE _____ TIME _____

D. Determine Net Radiation Index (NRADI) from opaque cloud cover (CLCVR step I.C above), cloud ceiling (CLCEG - step I.D above), isolation class number (ICLNO - step III.A above), and the below table:

NRADI

NRADI During Daytime (function of CLCVR and CLCEG) and
 Nighttime Conditions

CLVR	Daytime			Nighttime***		
	CLCEG					
	< 7,000 ft	7,000-15,000 ft	> 15,000 ft			
0/10	NRADI = ICLNO			NRADI = -2		
1/10						
2/10						
3/10						
4/10						
5/10	NRADI = 0			NRADI** = -1		
6/10						
7/10					NRADI* = ICLNO - 2	NRADI* = ICLNO - 1
8/10						
9/10						
10/10	NRADI = 0					

* If NRADI is less than 1, set NRADI equal to 1.

** If CLCVR is 10/10 and CLCEG is less than 7000 ft, NRADI equals 0.

*** Nighttime is defined as that period of time from 1 hour before sunset to one hour after sunrise (see TABLE ENV-3D).

C. Determine the Stability Class from wind speed in meters per second (WS(PB) step II.B above) and Net Radiation Index (NRADI - step III.B above) from the below table:

NOTE: If WS(PB) is not available, use WS(GB) from step I.B above.

STABILITY CLASS

Stability Class as a Function of NRADI and Wind Speed

WS m/sec	NRADI						
	4	3	2	1	0	-1	-2
0-0.77	A	A	B	C	D	F	G
0.78-1.60	A	B	B	C	D	F	G
1.61-2.83	A	B	C	D	D	E	F
2.84-3.35	B	B	C	D	D	E	F
3.36-3.86	B	B	C	D	D	D	E
3.87-4.89	B	C	C	D	D	D	E
4.90-5.41	C	C	D	D	D	D	E
5.42-5.92	C	C	D	D	D	D	D
> 5.92	C	D	D	D	D	D	D

FORM ENV-3D.2
RELEASE WORKSHEET

DATE _____ TIME _____

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Point of Interest	Sector	(D) Distance (miles)	(WS) Wind Speed (meters/sec)	(IT)* Impact Time (minutes)	Xu/Q (meters ⁻²)	X/Q** (sec/meters ²)
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

* IT = D/WS x 27

** X/Q = $\frac{(Xu/Q)}{(WS)}$

FORM ENV-3D.3

LAKE BREEZE EFFECT WORKSHEET

DATE _____ TIME _____

I. Is local wind direction (WDPB - step II.B on Form ENV-3D.1) between 20° and 170° clockwise?

No - No Lake Breeze

Yes - Proceed to step II

II. Is Green Bay wind direction (WDGB - step I.B on Form ENV-3D.1) between 210° and 330° clockwise?

No - No Lake Breeze Effect

Yes - Lake Breeze Effect

SUNRISE AND SUNSET AT MILWAUKEE, WISCONSIN

CENTRAL STANDARD TIME

NO. 1322

DAY	JAN.		FEB.		MAR.		APR.		MAY		JUNE		JULY		AUG.		SEPT.		OCT.		NOV.		DEC.	
	Rise AM	Set PM	Rise AM	Set PM	Rise AM	Set PM	Rise AM	Set PM	Rise AM	Set PM	Rise AM	Set PM	Rise AM	Set PM	Rise AM	Set PM	Rise AM	Set PM	Rise AM	Set PM	Rise AM	Set PM	Rise AM	Set PM
1	7 23	4 28	7 07	5 04	6 28	5 41	5 34	6 17	4 46	6 52	4 15	7 24	4 16	7 34	4 42	7 13	5 16	6 27	5 48	5 33	6 26	4 44	7 03	4 18
2	7 23	4 29	7 06	5 05	6 26	5 42	5 33	6 19	4 45	6 53	4 15	7 24	4 17	7 34	4 43	7 12	5 17	6 25	5 50	5 32	6 27	4 43	7 04	4 18
3	7 23	4 29	7 05	5 07	6 25	5 43	5 31	6 20	4 43	6 54	4 15	7 25	4 17	7 34	4 44	7 11	5 18	6 23	5 51	5 30	6 28	4 42	7 05	4 18
4	7 23	4 30	7 04	5 08	6 23	5 44	5 29	6 21	4 42	6 55	4 14	7 26	4 18	7 34	4 45	7 09	5 19	6 22	5 52	5 28	6 29	4 41	7 06	4 19
5	7 23	4 31	7 03	5 09	6 22	5 46	5 27	6 22	4 41	6 57	4 14	7 27	4 18	7 33	4 46	7 07	5 20	6 20	5 53	5 26	6 31	4 39	7 07	4 17
6	7 23	4 32	7 01	5 11	6 20	5 47	5 26	6 23	4 39	6 59	4 13	7 27	4 19	7 33	4 47	7 00	5 21	6 18	5 54	5 25	6 32	4 38	7 08	4 17
7	7 23	4 33	7 00	5 12	6 18	5 48	5 24	6 24	4 38	6 59	4 13	7 28	4 20	7 33	4 48	7 00	5 22	6 16	5 55	5 23	6 33	4 37	7 09	4 17
8	7 23	4 34	6 59	5 13	6 16	5 49	5 22	6 26	4 37	7 00	4 13	7 29	4 20	7 32	4 49	7 00	5 23	6 15	5 56	5 21	6 35	4 36	7 10	4 17
9	7 22	4 35	6 58	5 15	6 15	5 50	5 20	6 27	4 36	7 01	4 13	7 29	4 21	7 32	4 51	7 03	5 24	6 13	5 58	5 20	6 36	4 35	7 11	4 17
10	7 22	4 37	6 56	5 16	6 13	5 52	5 19	6 29	4 34	7 02	4 12	7 30	4 22	7 31	4 52	7 04	5 25	6 11	5 59	5 19	6 37	4 33	7 12	4 17
11	7 22	4 38	6 55	5 17	6 11	5 53	5 17	6 29	4 33	7 03	4 12	7 30	4 23	7 31	4 53	7 00	5 26	6 09	6 00	5 16	6 38	4 32	7 12	4 17
12	7 21	4 39	6 54	5 18	6 10	5 54	5 15	6 30	4 32	7 04	4 12	7 31	4 23	7 30	4 54	6 59	5 28	6 08	6 01	5 15	6 40	4 31	7 13	4 17
13	7 21	4 40	6 52	5 20	6 08	5 55	5 14	6 31	4 31	7 05	4 12	7 31	4 24	7 30	4 55	6 57	5 29	6 06	6 02	5 13	6 41	4 30	7 14	4 17
14	7 21	4 41	6 51	5 21	6 06	5 54	5 12	6 32	4 30	7 06	4 12	7 32	4 25	7 29	4 56	6 56	5 30	6 04	6 03	5 11	6 42	4 29	7 15	4 18
15	7 20	4 42	6 50	5 23	6 04	5 55	5 10	6 34	4 29	7 07	4 12	7 32	4 26	7 29	4 57	6 54	5 31	6 02	6 05	5 10	6 44	4 28	7 16	4 18
16	7 20	4 43	6 48	5 24	6 03	5 57	5 09	6 35	4 28	7 08	4 12	7 33	4 27	7 28	4 58	6 53	5 32	6 00	6 06	5 08	6 45	4 28	7 16	4 18
17	7 19	4 45	6 47	5 25	6 01	6 00	5 07	6 36	4 27	7 10	4 12	7 33	4 27	7 27	4 59	6 51	5 33	5 59	6 07	5 06	6 46	4 27	7 17	4 18
18	7 19	4 46	6 45	5 27	5 59	6 01	5 06	6 37	4 26	7 11	4 12	7 33	4 28	7 27	5 00	6 50	5 34	5 57	6 08	5 05	6 47	4 26	7 18	4 19
19	7 18	4 47	6 44	5 28	5 57	6 02	5 04	6 38	4 25	7 12	4 12	7 33	4 29	7 26	5 01	6 48	5 35	5 55	6 09	5 03	6 49	4 25	7 19	4 19
20	7 17	4 48	6 42	5 29	5 56	6 04	5 02	6 39	4 24	7 13	4 12	7 34	4 30	7 25	5 03	6 47	5 36	5 53	6 11	5 02	6 50	4 24	7 19	4 19
21	7 17	4 50	6 41	5 30	5 54	6 05	5 01	6 41	4 23	7 14	4 12	7 34	4 31	7 24	5 04	6 45	5 37	5 51	6 12	5 00	6 51	4 24	7 19	4 20
22	7 16	4 51	6 39	5 32	5 52	6 06	4 59	6 42	4 22	7 15	4 13	7 34	4 32	7 23	5 05	6 43	5 38	5 50	6 13	4 58	6 52	4 23	7 20	4 20
23	7 15	4 52	6 38	5 33	5 50	6 07	4 58	6 43	4 21	7 16	4 13	7 34	4 33	7 22	5 06	6 42	5 40	5 48	6 14	4 57	6 53	4 22	7 20	4 22
24	7 14	4 54	6 36	5 34	5 44	6 09	4 56	6 44	4 21	7 17	4 13	7 34	4 34	7 21	5 07	6 40	5 41	5 46	6 16	4 55	6 55	4 22	7 21	4 22
25	7 14	4 55	6 35	5 36	5 47	6 09	4 55	6 45	4 20	7 18	4 14	7 35	4 35	7 21	5 08	6 39	5 42	5 44	6 17	4 54	6 56	4 21	7 21	4 22
26	7 13	4 56	6 33	5 37	5 45	6 11	4 53	6 46	4 19	7 19	4 14	7 35	4 36	7 20	5 09	6 37	5 43	5 42	6 18	4 53	6 57	4 20	7 22	4 23
27	7 12	4 57	6 31	5 38	5 43	6 12	4 52	6 47	4 18	7 19	4 14	7 35	4 37	7 19	5 10	6 35	5 44	5 41	6 19	4 51	6 58	4 20	7 22	4 24
28	7 11	4 59	6 30	5 39	5 41	6 13	4 50	6 49	4 18	7 20	4 15	7 35	4 38	7 17	5 11	6 34	5 45	5 39	6 21	4 50	6 59	4 19	7 22	4 24
29	7 10	5 00	6 29	5 40	5 40	6 14	4 49	6 50	4 17	7 21	4 15	7 35	4 39	7 16	5 12	6 32	5 46	5 37	6 22	4 48	7 00	4 18	7 22	4 25
30	7 09	5 01			5 39	6 15	4 47	6 51	4 17	7 22	4 16	7 34	4 40	7 15	5 13	6 30	5 47	5 35	6 23	4 47	7 01	4 16	7 23	4 26
31	7 08	5 03			5 36	6 16			4 16	7 23			4 41	7 14	5 15	6 29			6 24	4 46			7 23	4 27

Add one hour for Daylight Saving Time if and when in use.

Kewaunee Nuclear Power Plant

TITLE: Corporate Staff Emergency
Response Organization

EMERGENCY PLAN IMPLEMENTING PROCEDURE

DATE OCT 13 1982

PAGE 1 of 7

REVIEWED BY

M. L. Marchi

APPROVED BY

C. R. Luoma

1.0 PURPOSE

This procedure describes the response of the Corporate Staff members to an activation of the Kewaunee Nuclear Power Plant Emergency Plan.

2.0 APPLICABILITY

This procedure applies to members of the Corporate Staff following their notification of the activation of the Emergency Plan.

3.0 REFERENCES

3.1 Emergency Plan Implementing Procedures (EIPs).

3.2 Wisconsin Public Service Corporation Nuclear Emergency Public Information Plan.

3.3 Kewaunee Nuclear Power Plant Emergency Plan.

4.0 RESPONSIBILITIES

4.1 Emergency Response Manager (ERM)

- 4.1.1 If warranted, activates and provides the overall direction of the Emergency Response Organization and the Emergency Operations Facility (EOF).
- 4.1.2 Determines the extent of the corporate response required (Table EOF-1.2).
- 4.1.3 Ensures that a designate for each position of the corporate emergency response organization (Table EOF-1.1) is notified.
- 4.1.4 Establishes communications in accordance with EP-EOF-7, Communications and Documentation.
- 4.1.5 Ensures offsite radiological accident assessment is being performed and evaluates recommended protective actions with the Environmental Protection Director (EPD).
- 4.1.6 Provides information via corporate management to the Public Information Director (PID) for dissemination to the public.

- 4.1.7 Notifies appropriate offsite agencies of emergency status of the plant and any change in status as required in notification procedures (EP-EOF-3,4,5,6).
- 4.1.8 Directs the Admin/Logistic Director (A/LD) to provide for needed assistance and support from NSS suppliers, other utilities, AE/Consultants, and Federal, State and local agencies and other WPS personnel.
- 4.1.9 Responsible for ensuring ambulance and medical services for accidents involving emergency response personnel which may occur outside the protected area.

4.2 Environmental Protection Director

- 4.2.1 Directs the radiological environmental survey and monitoring evolutions.
- 4.2.2 Informs the ERM of offsite dose parameters and dose predictions and recommends appropriate protective actions to be taken to the ERM.
- 4.2.3 Assumes the responsibilities delineated in EP-ENV-1, Environmental Monitoring Team Organization.
- 4.2.4 Performs the actions delineated in EP-ENV-3A, Environmental Protection Director Actions and Directives.

4.3 Admin/Logistic Director (A/LD)

- 4.3.1 Coordinates the procurement of needed supplies and equipment.
- 4.3.2 Performs the actions to obtain additional manpower as necessary from support agencies.

4.4 Public Information Director (PID)

- 4.4.1 Disseminates information on plant conditions to the public.
- 4.4.2 Carry out assigned responsibilities as described in Ref. 3.2.

NOTE: The corporate staff response is based on the classification of the emergency event as determined by onsite personnel.

5.0 REQUIREMENTS

5.1 Unusual Event

- 5.1.1 The ERM is notified by the plant staff of the emergency condition and, following verification, performs notifications in accordance with EP-EOF-3, Corporate Response to an Unusual Event.
- 5.1.2 The PID issues routine news releases to inform the public as necessary.

5.2 Alert

- 5.2.1 The ERM, upon notification and verification of the emergency event, calls the Emergency Director to determine the severity of the emergency event. A determination of whether or not to activate EOF will be made. With this determination in mind, perform applicable notification in accordance with EP-EOF-4, Corporate Response to an Alert.
- 5.2.2 If warranted, the ERM will proceed to the Site Access Facility and activate the EOF in accordance with EP-EOF-2, Emergency Operations Facility Activation.
- 5.2.3 The A/LD, when notified by the ERM that the EOF is being activated, performs applicable required notifications in accordance with EP-EOF-4, Corporate Response to an Alert, and then proceed to the EOF via the SAF.
- 5.2.4 The EPD, when notified by the ERM that the EOF is being activated, performs applicable required actions in accordance with EP-ENV-3A, Environmental Protection Director Actions and Directives.
- 5.2.5 The PID, when notified by the ERM will initiate PID notifications in accordance with Ref. 3.2 and then proceed to and activate the Joint Public Information Center (JPIC) if requested.
- 5.2.6 The ERM determines the amount of corporate response needed (Table EOF-1.2).
- 5.2.7 The ERM, upon being notified by the Emergency Director of the close out from the emergency event, commences deactivation of EOF.

5.3 Site Emergency

- 5.3.1 The ERM, upon notification and verification of a Site Emergency, will perform notifications in accordance with EP-EOF-5, Corporate Response to a Site Emergency.
- 5.3.2 If not previously activated, the ERM proceeds to the SAF and performs EOF activation in accordance with EP-EOF-2.
- 5.3.3 ERM upon completion of EOF activation contacts the Emergency Director or his representative in the TSC to obtain an update on the condition of the emergency and assume offsite notification responsibility.
- 5.3.4 The A/LD, when notified of the Site Emergency, performs applicable required notifications in accordance with EP-EOF-5, Corporate Response to a Site Emergency, and then proceeds to the EOF via the SAF.
- 5.3.5 The EPD, when notified of the Site Emergency, performs applicable required actions in accordance with EP-ENV-3A, Environmental Protection Director Actions and Directives.
- 5.3.6 The PID, when notified of the Site Emergency, activates the JPIC and makes notifications in accordance with Ref. 3.2.
- 5.3.7 The ERM recommends to State and local governments protective action that needs to be taken as a result of the event.
- 5.3.8 The ERM will provide information via the corporate management to the Public Information Director.
- 5.3.9 The ERM, upon being notified of the close out from the emergency event, commences deactivation of EOF or recovery operations per EP-AD-15, Recovery Planning, if applicable.

5.4 General Emergency

- 5.4.1 The ERM, upon notification and verification of a General Emergency, will perform notifications in accordance with EP-EOF-6, Corporate Response to a General Emergency.
- 5.4.2 The ERM proceeds to the SAF and performs EOF activation in accordance with EP-EOF-2, Emergency Operations Facility Activation.

- 5.4.3 The ERM provides the overall direction of the EOF, including recommendations to the State to initiate predetermined protective actions for the public.
- 5.4.4 The A/LD, when notified of the General Emergency, performs notification in accordance with EP-EOF-6 and then proceeds to the EOF via the SAF.
- 5.4.5 The EPD, when notified of the General Emergency, performs applicable required actions in accordance with EP-ENV-3A, Environmental Protection Director Actions and Directives.
- 5.4.6 The PID, when notified of the General Emergency, activates the JPIC and makes notifications in accordance with Ref. 3.2.
- 5.4.7 The ERM, upon being notified of the close out from the emergency event, commences deactivation of EOF or recovery operations per EP-AD-15, Recovery Planning, if applicable.

TABLE EOF-1.1

CORPORATE EMERGENCY ORGANIZATION
CORRELATION BETWEEN NORMAL AND EMERGENCY ORGANIZATION TITLES

EMERGENCY ORGANIZATION TITLE

NORMAL ORGANIZATION TITLE

PRINCIPAL

ALTERNATE

Emergency Response
 Manager

Manager-Nuclear
 Power

1. V. P. Nuclear Power
2. Nuclear Services Supv.
3. Nuclear Licensing and
 Systems Supervisor
4. Nuclear Administrative
 Supervisor

Environmental Prot.
 Director

Environmental Supervisor

1. Environ. Biologist
2. Environmental Analyst

Administrative/Logistics
 Director

Nuclear Services
 Supervisor

1. Nuclear Design Change
 Supervisor
2. Nuclear Technical
 Review Supervisor
3. Power Plant Design
 Supervisor
4. Nuclear Administrative
 Supervisor

Public Information
 Director

Nuclear Information
 Coordinator

1. Advertising and Public
 Information Director
2. Public Affairs Director

TABLE EOF-1.2
EOF EMERGENCY CALL LIST

Name Office # Home # Pager Code

Additional personnel may be requested from the TSC staff by contacting the TSC Director.

REVIEWED BY

M L March

APPROVED BY

CK [Signature]

1.0 APPLICABILITY

- 1.1 This procedure is to be implemented upon the declaration of an Alert, or at the request of the Emergency Response Manager.

2.0 PRECAUTIONS

- 2.1 If an emergency class escalation occurs during the notification, immediately implement the notification procedure for the new emergency classification.
- 2.2 All pages should be sent on both transmitters to ensure maximum area coverage - Kewaunee transmitter (plant ext Green Bay transmitter (plant ext or Green Bay ext
- 2.3 All Green Bay pager transmissions must have the pager number preceded by a (1).

3.0 REFERENCES

- 3.1 EP-EOF-1, Corporate Emergency Response Organization
- 3.2 EP-AD-17, Communications
- 3.3 EP-EOF-2, Emergency Operations Facility Activation
- 3.4 EP-EOF-9, Interface with Support Organizations
- 3.5 EP-ENV-3A, Environmental Protection Director Actions and Directives
- 3.6 EP-ENV-3B, Environmental Monitoring Team Actions
- 3.7 EP-AD-15, Recovery Planning
- 3.8 Nuclear Emergency Public Information Plan

4.0 INSTRUCTIONS

4.1 Emergency Response Manager (ERM) Actions

NOTE: Notifications may be performed by a communicator designated by the ERM.

4.1.1 Initial Actions and Notifications

- a. Upon notification and verification of an Alert condition, contact the Emergency Director to see if EOF activation is necessary.

NOTE: If notified by pager, confirm contact with a telephone call to

- b. Notify a designate for each of the corporate emergency positions and brief designates on plant status per Form EOF-4.1. Phone contact should be used if time permits.

NOTE: If unable to contact one person from each group by using home or office telephone numbers, activate the pager system per attached Table EOF-4 or call System Operating at _____ and provide your name and title and the names and titles of the individuals you wish to page. Also provide a brief (20 seconds) message to be broadcast over the pagers. System Operating personnel will attempt to contact these individuals via the paging system.

- c. If the decision is not to activate the EOF proceed to Step 4.1.1.j.
- d. If the EOF is to be activated:
1. proceed to the SAF and activate the EOF in accordance with EP-EOF-2 and,
 2. as necessary, contact additional personnel to staff the EOF using phone numbers listed in procedure EP-EOF-1, Table EOF-1.2.
 3. following completion of EP-EOF-2 continue this procedure with Step 4.1.1.e.
- e. If TSC has not already made the initial Alert notifications, notify the State and local governments using the NAWAS phone and document the contact on Form EOF-4.1.

The following statement should be given:

Kewaunee Nuclear calling Wisconsin Warning Center 1, East Central Area, Kewaunee County, and Manitowoc County. Please acknowledge.

Wait until all four areas have acknowledged, then continue. If any area fails to acknowledge, ask Warning Center 1 to ring that area.

All areas please take the following message:

This is (title) at the Kewaunee Nuclear Plant. An incident has occurred at our facility and we are declaring an Alert at (time) on (date).

There (has/has not) been a radiological release. No off-site consequences or evacuation of residents is expected. The State Radiological Response Team and key response personnel should be notified. Prepare to activate Emergency Operations Centers.

We will keep you informed of the situation.

Any confirming calls or return contacts should be through commercial telephone.

To repeat: Kewaunee Nuclear Plant is declaring an Alert (time) on (date). Please relay this information to Emergency Government immediately.

Please acknowledge receipt of this message.

- f. If the TSC has not already made the initial Alert notification notify the United States Coast Guard using commercial telephone lines with the text of the previous message and document the contact on Form EOF-4.1.
- g. Evaluate offsite radiological conditions with the EPD, RPD, and ED, and recommend protective actions, if warranted, to State and local authorities, per EP-ENV-3F, Protective Action Recommendations.
- h. Contact the TSC and complete Form EOF-4.2 and provide status updates to support agencies at mutually agreed upon intervals.

- i. Brief the EOF staff periodically on the status of the emergency and pertinent plant conditions.
- j. Notify the Institute of Nuclear Power Operations (INPO) and inform them of the Alert condition, per Form EOF-4.1.
- k. Notify American Nuclear Insurers (ANI) and inform them of the Alert conditions per Form EOF-4.1.
- l. As necessary, perform any additional support organization notifications per EP-EOF-9, Interface with Support Organizations.

4.1.2 Alert De-escalation to an Unusual Event

- a. Notify the corporate emergency directors of the emergency class change, per Form EOF-4.1.
- b. Notify the Institute of Nuclear Power Operations (INPO) of the emergency class change per Form EOF-4.1.
- c. Notify American Nuclear Insurers (ANI) of the emergency class change per Form EOF-4.1.
- d. If the EOF is activated, notify the support agencies with the NAWAS phone of the emergency class change and document the contact on Form EOF-4.1.

The following statement should be given:

Kewaunee Nuclear calling Wisconsin Warning Center 1, East Central Area, Kewaunee County, and Manitowoc County. Please acknowledge.

Wait until all four areas have acknowledged, then continue.
If any area fails to acknowledge, ask Warning Center 1 to ring that area.

This is (title) at the Kewaunee Nuclear Power Plant. Conditions have improved and we have de-escalated the Alert to an Unusual Event at (time) on (date).

To repeat: The Alert has been de-escalated to an Unusual Event at (time) on (date). Relay this information to Emergency Government immediately. Please acknowledge receipt of this message.

- e. Notify the United States Coast Guard using commercial telephone lines with the text of the previous message and document the contact on Form EOF-4.1.

4.1.3 Alert Close Out

- a. Notify the corporate emergency directors of the emergency close out per Form EOF-4.1.
- b. Notify the Institute of Nuclear Power Operations (INPO) of the emergency close out per Form EOF-4.1.
- c. Notify American Nuclear Insurers (ANI) of the emergency close out per Form EOF-4.1.
- d. If the EOF is activated, notify the support agencies using the NAWAS phone of the emergency close out and document the contact on Form EOF-4.1.

The following statement should be given:

Kewaunee Nuclear calling Wisconsin Warning Center 1, East Central Area, Kewaunee County, and Manitowoc County. Please acknowledge.

Wait until all four areas have acknowledged, then continue. If any area fails to acknowledge, ask Warning Center 1 to ring that area.

This is (title) at the Kewaunee Nuclear Power Plant. We have closed out the Alert at (time) on (date).

To repeat: The Alert has been closed out at (time) on (date).

This verbal close out will be followed with a written summary within 8 hours.

Relay this information to Emergency Government immediately. Please acknowledge receipt of this message.

- e. Notify the United States Coast Guard using commercial telephone lines with the text of the previous message and document the contact on Form EOF-4.1.
- f. Perform EOF deactivation in accordance with Section 4.2 of EP-EOF-2, Emergency Operations Facility Activation.

4.1.4 Final Conditions (one of the following)

- a. A higher class of emergency has been declared by the Emergency Director and one of the following procedures is being implemented:
 1. Corporate Response to a Site Emergency (EP-EOF-5)
 2. Corporate Response to a General Emergency (EP-EOF-6)
- b. The Alert has been reclassified as an Unusual Event, and EP-EOF-3, Corporate Response to an Unusual Event, is being implemented.
- c. The Alert has been closed out and no recovery operations are required.
- d. The recovery phase criteria have been met and the emergency organization is shifting to a recovery mode, by implementing EP-AD-15, Recovery Planning.

4.2 Public Information Director (PID) Actions

- 4.2.1 Upon notification from the ERM, perform normal press release actions in support of the Alert condition.
- 4.2.2 If requested by the ERM, activate the Joint Public Information Center per reference 3.8.

4.3 Environmental Protection Director (EPD) Actions

- 4.3.1 Perform actions in accordance with EP-ENV-3A, Environmental Protection Director Actions and Directives.

4.4 Environmental Monitoring Team (EMT) Actions

- 4.4.1 Perform actions in accordance with EP-ENV-3B, Environmental Monitoring Team Actions.

4.5 Admin/Logistics Director (ALD) Actions

- 4.5.1 If notified by pager, confirm contact with a telephone call to the SAF at
- 4.5.2 If informed of EOF activation by the ERM, contact a recorder per Form EOF-4.3 and proceed to the EOF via the SAF.
- 4.5.3 Obtain necessary administrative support from the list on Form EOF-4.3 and inform them of where they should report.
- 4.5.4 Perform the actions necessary to obtain additional manpower, supplies and equipment as requested by the ERM in accordance with EP-EOF-9.

Table EOF-4
PAGING SYSTEM OPERATION

- A.1 Tone and Voice Radio Pagers are assigned to personnel as shown with call numbers on the Emergency Call List.
- A.2 Whenever it is necessary to contact a person on the Emergency Call List and he is not on site, the home telephone number should be called first. If he cannot be reached at home, contact should then be attempted by using the person's individual call number. A group of individuals may be contacted by using the group call number. Tone and voice contact by pagers is effective within a 15 mile radius of the transmitting station. Only tone contacts can be made outside the 15 mile radius.
- A.3 How to Place a Page
- 3.1 Determine the two digit pager code for the party or group you wish to contact from the pager assignment list.

PLANT EXTENSION PHONES

- 3.2 Dial the terminal access code on any plant extension.
- Kewaunee site transmitter -
- Green Bay transmitter -
- a. When the terminal answers and responds with a beep, go to step 3.3.
- b. If you hear a "busy" signal, hang up and try again.
- 3.3 Dial the two digit pager code for the party or group you wish to contact from the pager assignment list.
- NOTE: This number must be preceded by a "1" when using the Green Bay transmitter.
- 3.4 Listen for the acknowledge (beeping) tone, indicating page being transmitted.
- 3.5 When the beeping tone stops, speak your message to the called party. You have about 20 seconds to talk. Your allotted time has expired when you hear the "busy" tone returned to the telephone. Hang up the phone.

TABLE EOF-4 (cont'd)

GREEN BAY EXTENSION PHONES

- 3.6 Dial:
 - a. For Kewaunee site transmitter -
 - b. For Green Bay transmitter -
- 3.7 When the terminal answers and responds with a beep, go to step 3.8.
 - a. If you hear a "busy" signal, hang up and try again.
- 3.8 Dial the two digit pager code for the party or group you wish to contact from the pager assignment list.

NOTE: This number must be preceded by a "1" when using the Green Bay transmitter.
- 3.9 Listen for the acknowledge (beeping) tone, indicating page being transmitted.
- 3.10 When the beeping tone stops, speak your message to the called party. You have about 20 seconds to talk. Your allotted time has expired when you hear the "busy" tone returned to the telephone. Hang up the phone.

FORM EOF-4.1

4.1.1 Initial Actions and Notifications

b. Notification of Corporate Emergency Personnel

PUBLIC INFORMATION DIRECTOR

Office # Home # Initials

Designate Contacted _____ TIME _____

ENVIRONMENTAL PROTECTION DIRECTOR

Indiv Group
Pager Pager

Designate Contacted _____ TIME _____

ADMIN/LOGISTICS DIRECTOR

Designate Contacted _____ TIME _____

NUCLEAR ADMINISTRATIVE SUPERVISOR

Time Contacted _____

e. NAWAS contact: Agency Time Initials

Warning Center 1 _____ _____

East Central Area _____ _____

Kewaunee County _____ _____

Manitowoc County _____ _____

FORM EOF-4.1 (cont'd)

I f. Notification of United States Coast Guard: Day _____
 Night _____

Contact _____ Time _____ Initials _____

j. Notification of INPO:

Contact _____ Time _____ Initials _____

k. Notification of ANI:

Contact _____ Time _____ Initials _____

4.1.2 Notification of Emergency Class De-escalation

a. Public Information Director	Time _____	Initials _____
Environmental Protection Director	Time _____	Initials _____
Admin/Logistics Director	Time _____	Initials _____
Nuclear Administrative Supervisor	Time _____	Initials _____

b. INPO

Contact _____ Time _____ Initials _____

c. ANI

Contact _____ Time _____ Initials _____

d. NAWAS Contact:

<u>Agency</u>	<u>Time</u>	<u>Initials</u>
Warning Center 1	_____	_____
East Central Area	_____	_____
Kewaunee County	_____	_____
Manitowoc County	_____	_____

e. Notification of United States Coast Guard:

I Day _____
 I Night _____

Contact _____ Time _____ Initials _____

FORM EOF-4.1 (cont'd)

4.1.3 Notification of Emergency Closeout

a. Public Information Director	Time _____	Initials _____
Environmental Protection Director	Time _____	Initials _____
Admin/Logistics Director	Time _____	Initials _____
Nuclear Administrative Supervisor	Time _____	Initials _____

b. INPO

Contact _____ Time _____ Initials _____

c. ANI

Contact _____ Time _____ Initials _____

d. NAWAS Contact :

<u>Agency</u>	<u>Time</u>	<u>Initials</u>
Warning Center 1	_____	_____
East Central Area	_____	_____
Kewaunee County	_____	_____
Manitowoc County	_____	_____

e. Notification of United States Coast Guard:

| Day

| Night

Contact _____ Time _____ Initials _____

FORM ECF 4.2
CHECKLIST FOR STATUS UPDATES TO SUPPORT AGENCIES

A. Identification:

Date _____ Time _____ Name of Person Making Report _____
Licensee _____ Facility Affected _____

B. Description:

Date of Event _____ Time _____
Description of What Happened _____

C. Consequences of Event: (Complete depending on type of event)

Injuries _____ Fatalities _____
Contamination (personnel) _____ (property) _____

Overexposures (known/possible) _____

Safety Hazard (describe - actual/potential) _____

Off-site Radiation Levels _____

Meteorology (wind speed) _____ From (direction) _____

Weather Conditions (rain, clear, overcast, temperature) _____

D. Cause of Event: _____

E. Recommended Protective Actions:

Classification of Emergency _____

Press Release Planned (Yes/No) _____

Form EOF-4.2 (cont'd)

Wisconsin Emergency Operations Center (EOC)

Contact					
Time					
Initial					

State Patrol Fond du Lac, or
East Central Area EOC (if activated)

Contact					
Time					
Initial					

Kewaunee County Sheriff, or
Kewaunee County EOC (if activated)

Contact					
Time					
Initial					

Manitowoc County Sheriff, or
Manitowoc County EOC (if activated)

Contact					
Time					
Initial					

U.S. Coast Guard

Day
Night

Contact					
Time					
Initial					

REVIEWED BY

M.L. Marchi

APPROVED BY

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1.0 APPLICABILITY

- 1.1 This procedure is to be implemented upon the declaration of a Site Emergency or at the request of the Emergency Response Manager.

2.0 PRECAUTIONS

- 2.1 If an emergency class escalation occurs during the notification, immediately implement the notification procedure for the new emergency classification.
- 2.2 All pages should be sent on both transmitters to ensure maximum area coverage - Kewaunee transmitter (plant ext Green Bay transmitter (plant ext or Green Bay ext
- 2.3 All Green Bay pager transmissions must have the pager number preceded by a (1).

3.0 REFERENCES

- 3.1 EP-EOF-1, Corporate Emergency Response Organization
- 3.2 EP-AD-17, Communications
- 3.3 EP-EOF-2, Emergency Operations Facility Activation
- 3.4 EP-EOF-9, Interface with Support Organizations
- 3.5 EP-ENV-3A, Environmental Protection Director Actions and Directives
- 3.6 EP-ENV-3B, Environmental Monitoring Team Actions
- 3.7 EP-AD-15, Recovery Planning
- 3.8 Nuclear Emergency Public Information Plan

4.0 INSTRUCTIONS

- 4.1 Emergency Response Manager (ERM) Actions

NOTE: Notifications may be performed by a communicator designated by the ERM.

4.1.1 Initial Actions and Notifications

- a. Upon notification and verification of a Site Emergency condition, contact the Emergency Director.

NOTE: If notified by pager, confirm contact with a telephone call to

- b. Notify a designate for each of the corporate emergency positions and brief designates on plant status, per Form EOF-5.1. Phone contact should be used if time permits.

NOTE: If unable to contact one person from each group by using home or office telephone numbers, activate the pager system per attached Table EOF-5.1 or call System Operating at _____ and provide your name and title and the names and titles of the individuals you wish to page. Also provide a brief (20 seconds) message to be broadcast over the pagers. System Operating personnel will attempt to contact these individuals via the paging system.

- c. Activate the EOF by:

1. proceeding to the SAF and activating the EOF in accordance with EP-EOF-2 and,
2. as necessary, contact additional personnel to staff the EOF with phone numbers listed in procedure EP-EOF-1, Table EOF-1.2.
3. following completion of EP-EOF-2 continue this procedure with Step 4.1.4.d.

- d. If TSC has not already made the initial Site Emergency notifications, notify the State and local governments using the NAWAS phone and document the contact on Form EOF-5.1.

The following statement should be given:

Kewaunee Nuclear calling Wisconsin Warning Center 1, East Central Area, Kewaunee County, and Manitowoc County. Please acknowledge.

Wait until all four areas have acknowledged, then continue. If any area fails to acknowledge, ask Warning Center 1 to ring that area.

All areas please take the following message:

This is (title) at the Kewaunee Nuclear Plant. An incident has occurred at our facility and we are declaring a Site Emergency at (time) or (date).

There (has/has not) been a radiological release. Near-site consequences are expected. The State Radiological Response Team and key response personnel should be notified. Activate Emergency Operations Centers.

We will keep you informed of the situation.

Any confirming calls or return contacts should be through commercial telephone.

To repeat: Kewaunee Nuclear Plant is declaring a Site Emergency (time) on (date). Please relay this information to Emergency Government immediately.

Please acknowledge receipt of message.

- e. If the TSC has not already made the initial Site Emergency notification, notify the United States Coast Guard using commercial telephone lines with the text of the previous message and document the contact on Form EOF-5.1.
- f. Evaluate offsite radiological conditions with the EPD, RPD, and ED, and recommend protective actions, if warranted, to State and local authorities per EP-ENV-3F, Protective Action Recommendations.
- g. Provide status updates to support agencies at mutually agreed upon intervals.
- h. Notify the Institute of Nuclear Power Operations (INPO) and inform them of the Site Emergency condition, per Form EOF-5.1.
- i. Notify American Nuclear Insurers (ANI) and inform them of the Site Emergency condition per Form EOF-5.1.
- j. As necessary, perform any additional support organization notifications per ER-EOF-9, Interface with Support Organizations.
- k. Provide information via the corporate management to the Public Information Director.

- l. If requested, dispatch representative to the County Emergency Operations Center.
- m. Brief the EOF staff periodically on the status of the emergency and pertinent plant conditions.

4.1.2 Site Emergency De-escalation to an Alert or Unusual Event

- a. Notify the corporate emergency directors of the emergency class change, per Form EOF-5.1.
- b. Notify the Institute of Nuclear Power Operations (INPO) of the emergency class change per Form EOF-5.1.
- c. Notify American Nuclear Insurers (ANI) of the emergency class change per Form EOF-5.1.
- d. If the EOF is activated, notify the support agencies using the NAWAS phone of the emergency class change per Form EOF-5.1, and document the contact on Form EOF 5.1.

The following statement should be given:

Kewaunee Nuclear calling Wisconsin Warning Center 1, East Central Area Kewaunee County, and Manitowoc County. Please acknowledge.

Wait until all four areas have acknowledged, then continue. If any area fails to acknowledge, ask Warning Center 1 to ring that area.

This is (title) at the Kewaunee Nuclear Power Plant. Conditions have improved and we have de-escalated the Site Emergency to an Alert/Unusual Event at (time) on (date).

To repeat: The Site Emergency has been de-escalated to an Alert/Unusual Event at (time) on (date). Relay this information to Emergency Government immediately. Please acknowledge receipt of this message.

- e. Notify the United States Coast Guard using commercial telephone lines with the text of the previous message and document the contact on Form EOF-5.1.

4.1.3 Site Emergency Close Out

- a. Notify the corporate emergency directors of the emergency close out per Form EOF-5.1.
- b. Notify the Institute of Nuclear Power Operations (INPO) of the emergency close out per Form EOF-5.1.
- c. Notify American Nuclear Insurers (ANI) of the emergency close out per Form EOF-5.1.
- d. If the EOF is activated, notify the support agencies using the NAWAS phone of the emergency close out and document the contact on Form EOF-5.1.

The following statement should be given:

Kewaunee Nuclear calling Wisconsin Warning Center 1, East Central Area, Kewaunee County, and Manitowoc County. Please acknowledge.
--

Wait until all four areas have acknowledged, then continue. If any area fails to acknowledge, ask Warning Center 1 to ring that area.

This is (title) at the Kewaunee Nuclear Power Plant. We have closed out the <u>Site Emergency</u> at (time) on (date).
--

To repeat: The <u>Site Emergency</u> has been closed out at (time) on (date).

This verbal close out will be followed with a written summary within 8 hours.

Relay this information to Emergency Government immediately. Please acknowledge receipt of this message.

- e. Notify the United States Coast Guard using commercial telephone lines with the text of the previous message and document the contact on Form EOF-5.1.
- f. Perform EOF deactivation in accordance with Section 4.2 of EP-EOF-2, Emergency Operations Facility Activation

4.1.4 Final Conditions (one of the following)

- a. A General Emergency has been declared and EP-EOF-6, Corporate Response to a General Emergency is being implemented.
- b. The Site Emergency has been reclassified as:
 1. Unusual Event; EP-EOF-3, is being implemented.
 2. Alert; EP-EOF-4, is being implemented.
- c. The Site Emergency has been closed out and no recovery operations are required.
- d. The recovery phase criteria have been met and the emergency organization is shifting to a recovery mode, by implementing EP-AD-15, Recovery Planning.

4.2 Public Information Director (PID) Actions

- 4.2.1 Upon notification from the ERM, perform normal press release actions in support of the Site Emergency condition.
- 4.2.2 Activate the Joint Public Information Center per reference 3.8.

4.3 Environmental Protection Director (EPD) Actions

- 4.3.1 Perform actions in accordance with EP-ENV-3A, Environmental Protection Director Actions and Directives.

4.4 Environmental Monitoring Team (EMT) Actions

- 4.4.1 Perform actions in accordance with EP-ENV-3B, Environmental Monitoring Team Actions.

4.5 Admin/Logistics Director (ALD) Actions

- 4.5.1 If notified by pager, confirm contact with a telephone call to the SAF at
- 4.5.2 If informed of EOF activation by the ERM, contact a recorded per Form EOF-5.3 and proceed to the EOF via the SAF.
- 4.5.3 Obtain necessary administrative support from the list on Form EOF-5.3 and inform them of where they should report.
- 4.5.4 Perform the actions necessary to obtain additional manpower, supplies and equipment as requested by the ERM in accordance with EP-EOF-9, Interface with Support Organizations.

TABLE EOF-5.1
PAGING SYSTEM OPERATION

- A.1 Tone and Voice Radio Pagers are assigned to personnel as shown with call numbers on the Emergency Call List.
- A.2 Whenever it is necessary to contact a person on the Emergency Call List and he is not on site, the home telephone number should be called first. If he cannot be reached at home, contact should then be attempted by using the person's individual call number. A group of individuals may be contacted by using the group call number. Tone and voice contact by pagers is effective within a 15 mile radius of the transmitting station. Only tone contacts can be made outside the 15 mile radius.
- A.3 How to Place a Page
- 3.1 Determine the two digit pager code for the party or group you wish to contact from the pager assignment list.

PLANT EXTENSION PHONES

- 3.2 Dial the terminal access code on any plant extension.
- Kewaunee site transmitter -
- Green Bay transmitter -
- a. When the terminal answers and responds with a beep, go to step 3.3.
- b. If you hear a "busy" signal, hang up and try again.
- 3.3 Dial the two digit pager code for the party or group you wish to contact from the pager assignment list.
- NOTE: This number must be preceded by a "1" when using the Green Bay transmitter.
- 3.4 Listen for the acknowledge (beeping) tone, indicating page being transmitted.
- 3.5 When the beeping tone stops, speak your message to the called party. You have about 20 seconds to talk. Your allotted time has expired when you hear the "busy" tone returned to the telephone. Hang up the phone.

TABLE EOF-5.1 (cont'd)GREEN BAY EXTENSION PHONES

3.6 Dial:

- a. For Kewaunee site transmitter - "
- b. For Green Bay transmitter -

3.7 When the terminal answers and responds with a beep, go to step 3.8.

- a. If you hear a "busy" signal, hang up and try again.

3.8 Dial the two digit pager code for the party or group you wish to contact from the pager assignment list.

NOTE: This number must be preceded by a "1" when using the Green Bay transmitter.

3.9 Listen for the acknowledge (beeping) tone, indicating page being transmitted.

3.10 When the beeping tone stops, speak your message to the called party. You have about 20 seconds to talk. Your allotted time has expired when you hear the "busy" tone returned to the telephone. Hang up the phone.

FORM EOF-5.1

4.1.1 Initial Actions and Notifications

b. Notification of Corporate Emergency Personnel

PUBLIC INFORMATION DIRECTOR

Office # Home # Initials

Designate Contacted _____ TIME _____

ENVIRONMENTAL PROTECTION DIRECTOR

Indiv Group
Pager Pager

Designate Contacted _____ TIME _____

ADMIN/LOGISTICS DIRECTOR

Designate Contacted _____ TIME _____

NUCLEAR ADMINISTRATIVE SUPERVISOR

Time Contacted _____

d. NAWAS contact. Agency Time Initials

Warning Center 1 _____ _____

East Central Area _____ _____

Kewaunee County _____ _____

Manitowoc County _____ _____

FORM EOF-5.1 (cont'd)

1 e. Notification of United States Coast Guard: Day
Night

Contact _____ Time _____ Initials _____

h. Notification of INPO:

Contact _____ Time _____ Initials _____

i. Notification of ANI:

Contact _____ Time _____ Initials _____

4.1.2 Notification of Emergency Class De-escalation

a. Public Information Director	Time _____	Initials _____
Environmental Protection Director	Time _____	Initials _____
Admin/Logistics Director	Time _____	Initials _____
Nuclear Administrative Supervisor	Time _____	Initials _____

b. INPO

Contact _____ Time _____ Initials _____

c. ANI

Contact _____ Time _____ Initials _____

d. NAWAS Contact: Agency Time Initials

Warning Center 1 _____

East Central Area _____

Kewaunee County _____

Manitowoc County _____

e. Notification of United States Coast Guard:

1 Day
1 Night

Contact _____ Time _____ Initials _____

FORM EOF-5.1 (cont'd)

4.1.3 Notification of Emergency Closeout

a.	Public Information Director	Time _____	Initials _____
	Environmental Protection Director	Time _____	Initials _____
	Admin/Logistics Director	Time _____	Initials _____
	Nuclear Administrative Supervisor	Time _____	Initials _____

b. INPO
Contact _____ Time _____ Initials _____

c. ANI
Contact _____ Time _____ Initials _____

d. NAWAS Contact:	<u>Agency</u>	<u>Time</u>	<u>Initials</u>
	Warning Center 1	_____	_____
	East Central Area	_____	_____
	Kewaunee County	_____	_____
	Manitowoc County	_____	_____

| a. Notification of United States Coast Guard: Day -
Night -
Contact _____ Time _____ Initials _____

FORM EOF-5.2
CHECKLIST FOR STATUS UPDATES TO SUPPORT AGENCIES

A. Identification:

Date _____ Time _____ Name of Person Making Report _____
Licensee _____ Facility Affected _____

B. Description:

Date of Event _____ Time _____
Description of What Happened _____

C. Consequences of Event: (Complete depending on type of event)

Injuries _____ Fatalities _____
Contamination (personnel) _____ (property) _____
Overexposures (known/possible) _____
Safety Hazard (describe - actual/potential) _____

Off-site Radiation Levels _____

Meteorology (wind speed) _____ From (direction) _____

Weather Conditions (rain, clear, overcast, temperature) _____

D. Cause of Event: _____

E. Recommended Protective Actions:

Classification of Emergency _____

Press Release Planned (Yes/No) _____

FORM EOF-5.2 (cont'd)

Wisconsin Emergency Operations Center (EOC)

Contact					
Time					
Initial					

State Patrol Fond du Lac, or
East Central Area EOC (if activated)

Contact					
Time					
Initial					

Kewaunee County Sheriff, or
Kewaunee County EOC (if activated)

Contact					
Time					
Initial					

Manitowoc County Sheriff, or
Manitowoc County EOC (if activated)

Contact					
Time					
Initial					

U.S. Coast Guard

Day
Night

Contact					
Time					
Initial					

FORM EOF-5.3

4.5.2 Contacting a Recorder:

Name

Office #

Home #

Contact _____ Time _____ Initials _____

4.5.3 Obtaining Administrative Support

Time

Initials

Name

Home #

REVIEWED BY

M. L. Marchi

APPROVED BY

CK Luoma

1.0 APPLICABILITY

1.1 This procedure is to be implemented upon the declaration of a General Emergency or at the request of the Emergency Response Manager.

2.0 PRECAUTIONS

2.1 All pages should be sent on both transmitters to ensure maximum area coverage - Kewaunee transmitter (plant ext Green Bay transmitter
(plant ext or Green Bay ext

2.2 All Green Bay pager transmissions must have the pager number preceded by a (1).

3.0 REFERENCES

3.1 EP-EOF-1, Corporate Emergency Response Organization

3.2 EP-AD-17, Communications

3.3 EP-EOF-2, Emergency Operations Facility Activation

3.4 EP-EOF-9, Interface with Support Organizations

3.5 EP-ENV-3A, Environmental Protection Director Actions and Directives

3.6 EP-ENV-3B, Environmental Monitoring Team Actions

3.7 EP-AD-15, Recovery Planning

3.8 Nuclear Emergency Public Information Plan

4.0 INSTRUCTIONS

4.1 Emergency Response Manager (ERM) Actions

NOTE: Notifications may be performed by a communicator designated by the ERM.

4.1.1 Initial Actions and Notifications

- a. Upon notification and verification of a General Emergency condition, contact the Emergency Director.

NOTE: If notified by pager, confirm contact with a telephone call to

- b. Notify a designate for each of the corporate emergency positions and brief designates on plant status per Form EOF-6.1. Phone contact should be used if time permits.

NOTE: If unable to contact one person from each group by using home or office telephone numbers, activate the pager system per attached Table EOF-6.1 or call System Operating at and provide your name and title and the names and titles of the individuals you wish to page. Also provide a brief (20 seconds) message to be broadcast over the pagers. System Operating personnel will attempt to contact these individuals via the paging system.

- c. Activate the EOF by:
1. proceeding to the SAF and activating the EOF in accordance with EP-EOF-2 and,
 2. as necessary, contact additional personnel to staff the EOF with phone numbers listed in procedure EP-EOF-1, Table EOF-1.2.
 3. following completion of EP-EOF-2 continue this procedure with Step 4.1.1.d.
- d. If TSC has not already made the initial General Emergency notifications, notify the State and local governments using the NAWAS phone and document the contact on Form EOF-6.1.

The following statement should be given:

Kewaunee Nuclear calling Wisconsin Warning Center 1, East Central Area, Kewaunee County, and Manitowoc County. Please acknowledge.

Wait until all four areas have acknowledged, then continue. If any area fails to acknowledge, ask Warning Center 1 to ring that area.

All areas please take the following message:

This is (title) at the Kewaunee Nuclear Plant. An incident has occurred at our facility and we are declaring a General Emergency at (time) on (date).

There (has/has not) been a radiological release. Near-site consequences are expected. The State Radiological Response Team and key response personnel should be notified. Activate Emergency Operations Centers.

We will keep you informed of the situation.

Any confirming calls or return contacts should be through commercial telephone.

To repeat: Kewaunee Nuclear Plant is declaring a General Emergency (time) on (date). Please relay this information to Emergency Government immediately.

Please acknowledge receipt of message.

- e. If the TSC has not already made the initial General Emergency notification, notify the United States Coast Guard using commercial telephone lines with the text of the previous message and document the contact on Form EOF-6.1.
- f. Evaluate offsite radiological conditions with the EPD, RPD, and ED and recommend protective actions, if warranted, to State and local authorities, per EP-ENV-3F, Protective Action Recommendations.
- g. Provide status updates to support agencies (using Form EOF-6.2) at mutually agreed upon intervals.
- h. Notify the Institutue of Nuclear Power Operations (INPO) and inform them of the General Emergency condition per Form EOF-6.1.
- i. Notify American Nuclear Insurers (ANI) and inform them of the General Emergency condition per Form EOF-6.1.
- j. As necessary, perform any additional support organization notifications per EP-EOF-9, Interface with Support Organizations.

- k. Provide information via the corporate management to the Public Information Director.
- l. If requested, dispatch representative to the County Emergency Operations Center.
- m. Brief the EOF staff periodically on the status of the emergency and pertinent plant conditions.

4.1.2 General Emergency De-escalation to a (Site Emergency/Alert/Unusual Event).

- a. Notify the corporate emergency directors of the emergency class change per Form EOF-6.1.
- b. Notify Institute of Nuclear Power Operations (INPO) of the emergency class change per Form EOF-6.1.
- c. Notify American Nuclear Insurers (ANI) of the emergency class change per Form EOF-6.1.
- d. If the EOF is activated notify the support agencies, using the NAMAS phone, of the emergency class change and document the contact on Form EOF-6.1.

The following statement should be given:

Kewaunee Nuclear calling Wisconsin Warning Center I, East Central Area, Kewaunee County, and Manitowoc County. Please acknowledge.

Wait until all four areas have acknowledged, then continue. If any area fails to acknowledge, ask Warning Center I to ring that area.

This is (title) at the Kewaunee Nuclear Power Plant. Conditions have improved and we have de-escalated the General Emergency to a (Site Emergency/Alert/Unusual Event) at (time) on (date).

To repeat: The General Emergency has been de-escalated to a (Site Emergency/Alert/Unusual Event) at (time) on (date). Relay this information to emergency Government immediately. Please acknowledge receipt of this message.

- e. Notify the United States Coast Guard, using commercial telephone lines with the text of the previous message and document the contact on Form EOF-6.1.

4.1.3 General Emergency Close Out

- a. Notify the corporate emergency directors of the emergency close out per Form EOF-6.1.
- b. Notify the Institute of Nuclear Power Operations (INPO) of the emergency close out per Form EOF-6.1.
- c. Notify American Nuclear Insurers (ANI) of the emergency close out per Form EOF-6.1.
- d. If the EOF is activated, notify the support agencies, using the NAWAS phone, of the emergency close out and document the contact on Form EOF-6.1.

The following statement should be given:

Kewaunee Nuclear calling Wisconsin Warning Center I, East Central Area, Kewaunee County, and Manitowoc County. Please acknowledge.

Wait until all four areas have acknowledged, then continue. If any area fails to acknowledge, ask Warning Center I to ring that area.

This is (title) at the Kewaunee Nuclear Power Plant. We have closed out the General Emergency at (time) on (date).

To repeat: The General Emergency has been closed out at (time) on (date).

This verbal close out will be followed with a written summary within 8 hours.

Relay this information to Emergency Government immediately. Please acknowledge receipt of this message.

- e. Notify the United States Coast Guard, using commercial telephone lines, with the text of the previous message and document the contact on Form EOF-6.1

- f. Perform EOF deactivation in accordance with Section 4.2 of EP-EOF-2, Emergency Operations Facility Activation.

4.1.4 Final Conditions (one of the following)

- a. The General Emergency has been reclassified as:
1. Unusual Event; EP-EOF-3, is being implemented.
 2. Alert; EP-EOF-4, is being implemented.
 3. Site Emergency; EP-EOF-5, is being implemented.
- b. The General Emergency has been closed out and no recovery operations are required.
- c. The recovery phase criteria have been met and the emergency organization is shifting to a recovery mode, by implementing EP-AD-15, Recovery Planning.

4.2 Public Information Director (PID) Actions

- 4.2.1 Upon notification from the ERM, perform normal press release actions in support of the General Emergency condition.
- 4.2.2 Activate the Joint Public Information Center per reference 3.8.

4.3 Environmental Protection Director (EPD) Actions

- 4.3.1 Perform actions in accordance with EP-ENV-3A, Environmental Protection Directors Action and Directives.

4.4 Environmental Monitoring Team (EMT) Actions

- 4.4.1 Perform actions in accordance with EP-ENV-3B.

4.5 Admin/Logistics Director (ALD) Actions

- 4.5.1 If notified by pager, confirm contact with a telephone call to the SAF at
- 4.5.2 If informed of EOF activation by the ERM, contact a recorder per Form EOF-6.3 and proceed to the EOF via the SAF.
- 4.5.3 Obtain necessary administrative support from the list on Form EOF-6.3 and inform them of where they should report.
- 4.5.4 Perform the actions necessary to obtain additional manpower, supplies and equipment as requested by the ERM in accordance with EP-EOF-9.

TABLE EOF-6.1
PAGING SYSTEM OPERATION

- A.1 Tone and Voice Radio Pagers are assigned to personnel as shown with call numbers on the Emergency Call List.
- A.2 Whenever it is necessary to contact a person on the Emergency Call List and he is not on site, the home telephone number should be called first. If he cannot be reached at home, contact should then be attempted by using the person's individual call number. A group of individuals may be contacted by using the group call number. Tone and voice contact by pagers is effective within a 15 mile radius of the transmitting station. Only tone contacts can be made outside the 15 mile radius.

A.3 How to Place a Page

- 3.1 Determine the two digit pager code for the party or group you wish to contact from the pager assignment list.

PLANT EXTENSION PHONES

- 3.2 Dial the terminal access code on any plant extension.

Kewaunee site transmitter - . . .

Green Bay transmitter -

- a. When the terminal answers and responds with a beep, go to step 3.3.
- b. If you hear a "busy" signal, hang up and try again.

- 3.3 Dial the two digit pager code for the party or group you wish to contact from the pager assignment list.

NOTE: This number must be preceded by a "1" when using the Green Bay transmitter.

- 3.4 Listen for the acknowledge (beeping) tone, indicating page being transmitted.

- 3.5 When the beeping tone stops, speak your message to the called party. You have about 20 seconds to talk. Your allotted time has expired when you hear the "busy" tone returned to the telephone. Hang up the phone.

TABLE EOF-6.1 (cont'd)

GREEN BAY EXTENSION PHONES

- 3.6 Dial:
- a. For Kewaunee site transmitter -
 - b. For Green Bay transmitter -
- 3.7 When the terminal answers and responds with a beep, go to step 3.8.
- a. If you hear a "busy" signal, hang up and try again.
- 3.8 Dial the two digit pager code for the party or group you wish to contact from the pager assignment list.
- NOTE: This number must be preceded by a "1" when using the Green Bay transmitter.
- 3.9 Listen for the acknowledge (beeping) tone, indicating page being transmitted.
- 3.10 When the beeping tone stops, speak your message to the called party. You have about 20 seconds to talk. Your allotted time has expired when you hear the "busy" tone returned to the telephone. Hang up the phone.

FORM EOF-6.1

4.1.1 Initial Actions and Notifications

b. Notification of Corporate Emergency Personnel

PUBLIC INFORMATION DIRECTOR

Office # Home # Initials

Designate Contacted _____ TIME _____

ENVIRONMENTAL PROTECTION DIRECTOR

Indiv Group
Pager Pager

Designate Contacted _____ TIME _____

ADMIN/LOGISTICS DIRECTOR

Designate Contacted _____ TIME _____

NUCLEAR ADMINISTRATIVE SUPERVISOR

Time Contacted _____

d. NAWAS contact: Agency Time Initials

Warning Center 1 _____ _____

East Central Area _____ _____

Kewaunee County _____ _____

Manitowoc County _____ _____

FORM EOF-6.1 (cont'd)

| e. Notification of United States Coast Guard: Day _____
 Night _____

Contact _____ Time _____ Initials _____

h. Notification of INPO:

Contact _____ Time _____ Initials _____

i. Notification of ANI:

Contact _____ Time _____ Initials _____

4.1.2 Notification of Emergency Class De-escalation

a. Public Information Director Time _____ Initials _____

Environmental Protection Director Time _____ Initials _____

Admin/Logistics Director Time _____ Initials _____

Nuclear Administrative Supervisor Time _____ Initials _____

b. INPO

Contact _____ Time _____ Initials _____

c. ANI

Contact _____ Time _____ Initials _____

d. NAWAS Contact: Agency Time Initials

Warning Center I _____

East Central Area _____

Kewaunee County _____

Manitowoc County _____

| e. Notification of United States Coast Guard: Day _____
 Night _____

Contact _____ Time _____ Initials _____

FORM EOF-6.1 (cont'd)

4.1.3 Notification of Emergency Closeout

a. Public Information Director	Time _____	Initials _____
Environmental Protection Director	Time _____	Initials _____
Admin/Logistics Director	Time _____	Initials _____
Nuclear Administrative Supervisor	Time _____	Initials _____

b. INPO
Contact _____ Time _____ Initials _____

c. ANI
Contact _____ Time _____ Initials _____

d. NAWAS Contact:	<u>Agency</u>	<u>Time</u>	<u>Initials</u>
	Warning Center I	_____	_____
	East Central Area	_____	_____
	Kewaunee County	_____	_____
	Manitowoc County	_____	_____

l e. Notification of United States Coast Guard: Day
Night
Contact _____ Time _____ Initials _____

FORM EOP-6.2
CHECKLIST FOR STATUS UPDATES TO SUPPORT AGENCIES

A. Identification:

Date _____ Time _____ Name of Person Making Report _____
Licensee _____ Facility Affected _____

B. Description:

Date of Event _____ Time _____
Description of What Happened _____

C. Consequences of Event: (Complete depending on type of event)

Injuries _____ Fatalities _____
Contamination (personnel) _____ (property) _____
Overexposures (known/possible) _____
Safety Hazard (describe - actual/potential) _____

Off-site Radiation Levels _____
Meteorology (wind speed) _____ From (direction) _____
Weather Conditions (rain, clear, overcast, temperature) _____

D. Cause of Event:

E. Recommended Protective Actions:

Classification of Emergency _____
Press Release Planned (Yes/No) _____

FORM EOF-6.2 (cont'd)

Wisconsin Emergency Operations Center (EOC)

Contact					
Time					
Initial					

State Patrol Fond du Lac, or
East Central Area EOC (if activated)

Contact					
Time					
Initial					

Kewaunee County Sheriff, or
Kewaunee County EOC (if activated)

Contact					
Time					
Initial					

Manitowoc County Sheriff, or
Manitowoc County EOC (if activated)

Contact					
Time					
Initial					

U.S. Coast Guard

Day
Night

Contact					
Time					
Initial					

FORM EOF-6.3

4.5.2 Contacting a Recorder:

Name Office # Home #

Contact _____ Time _____ Initials _____

4.5.3 Obtaining Administrative Support

Time Initials Name Home #

REVIEWED BY

M. Marchi

APPROVED BY

Ch. Jones

1.0 APPLICABILITY

This procedure is implemented upon determination that assistance of outside Support Organizations is needed to support the emergency response activities.

2.0 PRECAUTIONS

- 2.1 Ensure acknowledgement from Support Organizations of the assistance requested.
- 2.2 Document telephone conversations per EP-EOF-7, Communication and Documentation.

3.0 REFERENCES

- 3.1 Fluor Power Services, Inc., Emergency Response Plan
- 3.2 Westinghouse Electric Corporation, Emergency Response Plan, Water Reactors Division
- 3.3 State of Wisconsin, Peacetime Radiological Emergency Response Plan
- 3.4 Manitowoc County Radiological Emergency Response Plan
- 3.5 Kewaunee County Radiological Emergency Response Plan
- 3.6 Rad Services Inc., Agreement for Health Physics Services
- 3.7 Hazleton Environmental Services, Emergency Response Plan for Kewaunee Nuclear Power Plant

4.0 INSTRUCTIONS

4.1 Emergency Response Manager or Emergency Director

- 4.1.1 Determine need for radiological and environmental support and assign appropriate personnel to complete section 4.2.
- 4.1.2 Determine need for engineering and technical support and assign appropriate personnel to complete section 4.3.
- 4.1.3 Determine need for medical assistance and direct appropriate personnel to complete section 4.4.

4.2 Radiological and Environmental Support

- 4.2.1 Radiological Protection Director (RPD) and Environmental Protection Director (EPD) inform the Emergency Director (ED) or the Emergency Response Manager (ERM) of the need for assistance.
- 4.2.2 Contact Rad Services, Inc., or Hazleton Environmental Sciences per recommendations received from the RPD/EPD using the following numbers:
 - a. Rad Services, Inc.
 - b. Hazleton Environmental Sciences
 - 1.
 - 2.

NOTE: If additional contacts are needed, refer to Letter of Agreement, Appendix D, of Kewaunee Nuclear Power Plant Emergency Plan.

4.3 Engineering and Technical Support

- 4.3.1 Technical Support Center Director (TSCD) or Emergency Director (ED) determine the need for assistance and inform the Emergency Response Manager of the need for assistance.
- 4.3.2 Contact Westinghouse or Fluor Power Services per recommendations received from the Technical Support Center Director using the following numbers:
 - a. Westinghouse

(night)

b. Fluor Power Services

4.4 Medical Assistance

4.4.1 Contact medical agencies, as determined by ERM or Emergency Director, at the following numbers:

- a. Two Rivers Community Hospital
- b. Dr.
- c. U.W. Hospital
- d. Dr.
- e. Ambulance
 - 1. Two Rivers -
 - 2. Kewaunee -

4.5 Other Support Agencies

4.5.1 The Emergency Response Manager may require assistance from any of the following support agencies.

- a. American Nuclear Insurers
- b. Department of Energy Day
Night
- c. Institute of Nuclear Power
Operations (INPO)
- d. National Weather Service Office
(Green Bay)
- e. NRC - Region III - Chicago
Operations Office
- f. Point Beach Nuclear Power Plant
- g. Public Service Commission of
Wisconsin
- h. State Police - Fond du Lac
- i. U.S. Coast Guard Day
Night

REVIEWED BY



APPROVED BY



1.0 APPLICABILITY

Containment samples will be drawn and analyzed following an Alert, Site, or General Emergency, or when directed by the Radiation Protection Director (RPD).

2.0 PRECAUTIONS

2.1 Any sample drawn from the post accident containment atmosphere should be assumed to contain specific activity of the following magnitude:

GAS	5.0 Millicuries/cc
IODINE	0.2 Millicuries/cc

Due to this large specific activity, very high radiation dose rates may be expected to be present in the area of the post-LOCA Hydrogen control panels once the flow is established from containment.

2.2 Background dose rates in the area of the post-LOCA Hydrogen control panels following an accident have been calculated to be:

TIME = 0 hrs	4.000 REM/hr
TIME = 8 hrs	300 MR/hr
TIME = 24 hrs	50 MR/hr

These dose rates do not assume any sampling in progress.

2.3 All necessary equipment shall be on hand prior to beginning to sample the containment atmosphere. This equipment includes:

2.3.1 An operable RAP-1 air pump (on cart).

2.3.2 A 5.0 microliter gas syringe (2 on cart).

2.3.3 A 1.0 cc gas syringe (on cart).

2.3.4 An iodine cartridge holder (1 in count room).

2.3.5 Silver Zeolite Cartridges (1 in count room).

2.3.6 Several small rubber stoppers (3-4 on cart).

2.3.7 Portable shields for use when transporting syringes for counting (on cart).

2.3.8 A 4.0 liter Marinelli Beaker (in Count Room).

2.4 An Emergency Radiation Work Permit shall be made out prior to sampling. This shall include requirements for finger, wrist, and whole body dosimetry, respiratory protection, and protective clothing based on survey results in the area and changing conditions expected upon initiation of sampling.

2.5 Verify that the Auxiliary Building Ventilation or Zone SV exhaust fans are operating prior to drawing a sample.

3.0 REFERENCES

Refer to the following procedures prior to implementing containment sample procedures:

3.1 EP-AD-11, Emergency Radiation Controls

3.2 EP-RET-2, In-Plant Radiation Emergency Team

3.3 EP-RET-2D, Emergency Radiation Entry Controls and Implementation

3.4 EP-RET-7, RPO/RAF Communications

3.5 Drawing M-403D, Flow Diagram, Reactor Bldg. Vent Systems and Post-LOCA Hydrogen Control'

3.6 RC-C-61, Gas Partitioner Operating Procedure

4.0 INSTRUCTIONS

4.1 Valve Lineup for Sample Purge - Train A (B)

NOTE: During reactor operation, an auxiliary operator must be stationed at the post-LOCA Hydrogen control panel until sampling is complete and all valves have been returned to their normal (closed) positions. If a containment isolation signal is received during sample draining, the auxiliary operator is to immediately close valves LOCA-2A(B) and LOCA-10A(B).

4.1.1 Ensure that all fittings and connections are secure.

- 4.1.2 Test the RAP-1 pump for operability. Initial conditions - all LOCA valves are closed.
- 4.1.3 Open motor valve LOCA-2A(B). Hold the switch in the open position until the green light on the panel goes out.
- 4.1.4 Open valve LOCA-10A(B). Indicator lights should change from green to red.
- 4.1.5 Open valve LOCA-30A(B).
- 4.1.6 Start the RAP-1 pump and allow it to purge the line for a minimum of 15 minutes. Flow should be set a 2-3 SCFM.
- 4.1.7 If train B is to be used for sampling instead of train A, the valves in the B train may be substituted for those in the A train.
- 4.2 Sample Collection
- 4.2.1 Turn off the RAP-1 pump.
- 4.2.2 Withdraw a one cc sample and two 5 microliter samples of the containment atmosphere from the rubber hose on the suction of the RAP-1 pump and place them in a portable shield for transport to the count room. Insert the needle of each syringe into a small rubber stopper to prevent leakage.
- 4.2.3 Using a predetermined route to minimize exposure, transport the shielded samples to the count room for analysis.
- 4.3 System Shutdown and Cleanout
- 4.3.1 Shut valve LOCA-2A(B).
- 4.3.2 Open valve LOCA-3A(B).
- 4.3.3 Start the RAP-1 pump and allow it to run for about 5 minutes. This will purge the contaminated air from the system piping.
- 4.3.4 After the lines are purged, turn off the RAP-1 pump and shut valve LOCA-3A(B).
- 4.3.5 Shut valve LOCA-10A(B).
- 4.3.6 Shut valve LOCA-30A(B).

4.3.7 Final conditions - all LOCA valves are closed.

4.4 Gross Gas Analysis

- 4.4.1 Perform background radiation surveys in the count room and ensure that the multi-channel analyzer (MCA) is operable.
- 4.4.2 Place a Marinelli beaker on the Geli detector and run a 5 minute background count. Record the % dead time indication.
- 4.4.3 After the background count, remove the Marinelli from the count cave and inject 5 microliters of sample into it. Replace on the Geli and count for one minute using the standard Marinelli Q>T table. Expected results are approximately $5.0 E - 3 \text{ uCi/cc}$ for Xe-133 at 5% dead time under negligible background radiation conditions.
- 4.4.4 Dilution factor when injecting 5.0 microliters into a 4.0 liter Marinelli is $8.0 E + 5$. Determine gaseous isotopes using the following formula:

$$\begin{array}{r} \text{(Printout Activity} \\ \text{in uCi/cc)} \end{array} \times (8.0 E + 5) = \begin{array}{r} \text{Gaseous Activity} \\ \text{in Containment} \\ \text{in uCi/cc} \end{array}$$

- 4.4.5 If the count room is uninhabitable or if the multi-channel analyzer is saturated from background radiation and inoperable, the sample may have to be sent to Point Beach for counting. In this case, instead of injecting the 5.0 microliters of sample into a Marinelli beaker, inject it into a 1.0 liter poly bottle. The bottle may then be counted for gross gas activity at Point Beach in the liter bottle geometry. If this is done, use a dilution factor of $2.0 E + 5$ to determine actual activity in containment.

4.5 Iodine Analysis

- 4.5.1 Place a Silver Zeolite sample cartridge in a holder. Attach a hose from the holder to a vacuum source and establish air flow through the filter cartridge.
- 4.5.2 Inject 5.0 microliters of the samples gas upstream of the filter cartridge allowing the gas to flow through the Silver Zeolite cartridge.
- 4.5.3 Remove the Silver Zeolite cartridge from its holder and monitor it for radiation.
- 4.5.4 Insert the CESCO NFRU Q>T table on the MCA.

4.5.5 Run a 5 minute background count on the MCA.

4.5.6 Place the Silver Zeolite cartridge on the Geli detector and perform a one minute sample count. Activity results will be in uCi/cc times 1.00 E-6 .

4.5.7 If the count room is inaccessible, the cartridge may be sent to Point Beach for analysis. They use an identical geometry for counting iodine samples.

I 4.6 Hydrogen and Oxygen Analyses

4.6.1 Refer to chemistry procedure RC-C-61, Operation of the Gas Partitioner.

4.6.2 Ensure that the gas partitioner is turned on, the Argon flow is 30-35 cc/min., the cell power switch is on, and the heater switch and chart recorder are on.

4.6.3 Once everything is set up on the gas partitioner inject the contents of the 1.0 cc syringe into the gas partitioner and await results on the chart recorder.

4.6.4 Report all results obtained to the Radiological Protection Director.

Kewaunee Nuclear Power Plant

TITLE: Personnel Accountability
(Initial and Maintaining)

EMERGENCY PLAN IMPLEMENTING PROCEDURE

DATE: OCT 13 1982

PAGE 1 of 3

REVIEWED BY

M L Marchisio / J Moore

APPROVED BY

DST

1.0 APPLICABILITY

1.1 Personnel accountability will be initiated when an incident is classified as a Site Emergency or General Emergency or whenever conditions warrant as determined by the Emergency Director.

2.0 PRECAUTIONS

- 2.1 Ensure all accountability reports are made clearly and are understood by receiving personnel.
- 2.2 Adhere to the policies and requirements outlined in EP-AD-11 and EP-RET-2D.
- 2.3 Ensure all incoming personnel are noted on a daily check-in sheet when entering the Protected Area or the site via the Site Access Facility.

3.0 REFERENCES

- 3.1 Kewaunee Nuclear Power Plant Emergency Plan
- 3.2 EP-AD-14, Search & Rescue
- 3.3 EP-AD-11, Emergency Radiation Controls Implementation
- 3.4 EP-AD-12, Personnel Assembly and Accountability
- 3.5 EP-RET-2D, Emergency Radiation Controls

4.0 INSTRUCTIONS

4.1 Security Director

- 4.1.1 Acquire a list of personnel (non-badged) in the Protected Area from the Visitor Register and check-in log.
- 4.1.2 Designate an individual to contact all assembly areas per Table EP-SEC-3.1 for personnel names and I.D. numbers.
- 4.1.3 Compare the two lists of personnel and determine any missing persons in the Protected Area.
- 4.1.4 Direct CAS operator to run a computer roll call for any missing persons.

- 4.1.5 Attempt to contact any unaccounted for personnel, using plant Gai-tronics. Upon response, inform them to proceed to the nearest assembly area.
 - 4.1.6 If conditions permit, Security Force personnel should make a tour through the yard area, substation, sewage plant, and Met Tower due to the lack of communications in these areas. A radiation monitoring instrument should accompany these personnel.
 - 4.1.7 Inform the Emergency Director of the status of accountability within 30 minutes of emergency declaration and announcement.
 - 4.1.8 Direct search and rescue teams as required.
 - 4.1.9 Provide the Radiological Protection Director with support information on possible locations of unaccounted for personnel in controlled areas.
 - 4.1.10 Update the accountability status to the Emergency Director at least every 15 minutes, until all personnel, including visitors, have been located.
 - 4.1.11 After all personnel are located, periodic accountability checks should be performed to ensure continuous accountability of personnel.
 - 4.1.12 Ensure the Site Access Facility (SAF) Security Force members report and record personnel arriving from offsite.
- 4.2 Security Force
- 4.2.1 Assemble a muster list of personnel inside the Protected Area from the Visitor Register and check-in log. Give this to the Security Director.

TABLE SEC-3

EMERGENCY ASSEMBLY AREAS

GROUP	Primary Assembly Location and Telephone Numbers	Alternate Assembly Locations and Telephone Numbers	Coordinator
Operations Shift Crew	Control Room Phone	Radiation Protection Office Phone	Shift Supervisor or Event Oper. Director
Fire Brigade	Shift Supervisor's Office Phone	Admin. Bldg. Lobby Phone	Fire Brigade Leader
Fire Team	Admin. Bldg. Lobby Phone	Security Bldg. Phone	Fire Team Leader
Radiation Emergency Teams Controlled Area Personnel	Radiation Protection Office Phone	Radiological Analysis Facility Phone	Radiological Protection Director
Containment Personnel	Personnel Airlock Gai-tronics	Emergency Airlock Gai-tronics	Senior HP Technolo- gist or Staff Member
Technical Support Center Staff	Technical Support Center Phone		Technical Support Center Director
Maintenance personnel, visitors, contractors, and personnel with no immediate emergency response duty	Operational Support Facility (Admin. Bldg. Ground Level) Phone		Support Activities Director
Training personnel	Emergency Operations Facility (Trng. Bldg. General Meeting Room) Phone	Site Access Facility Phone	Training Supervisor or Emergency Response Manager
Security Personnel (except CAS officers)	Security Bldg. Phone	Site Access Facility Phone	Security Director or Shift Captain

WISCONSIN PUBLIC SERVICE CORPORATION
KEWAUNEE NUCLEAR POWER PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NO. EP-TSC-6

TITLE: Assessment of Reactor
Core Damage

DATE: OCT 13 1982

PAGE 1 of 4

REVIEWED BY

M. L. March

APPROVED BY

[Signature]

1.0 PROCEDURE

This procedure provides characteristic plant parameters to assist in determining the extent of reactor core damage.

2.0 APPLICABILITY

This procedure applies when loss of reactor core cooling is suspected or reactor core cooling can no longer be maintained.

3.0 REFERENCES

- 3.1 E-0-10, Loss of Reactor Coolant
- 3.2 RC-C-84, Percentage Failed Fuel Calculations
- 3.3 EP-AD-2, Emergency Class Determination
- 3.4 Mitigating Reactor Core Damage - General Physics Corp.
- 3.5 NSAC-2, Mitigation of Small Break Loca in PWR Systems
- 3.4 NSAC-24, TMI-2 Accident - Core Heat-up Analysis
- 3.7 NSAC-28, Interpretation of TMI-2 Instrument Data

4.0 INSTRUCTIONS

- 4.1 The development of reactor core damage can be described in three stages:
 - 1) Initial Core Uncovering
 - 2) Core Uncovering in Progress/Core Uncovered
 - 3) Core Melting

4.2 Characteristics of Initial Core Uncovering

- 4.2.1 Temperature indications exceeding the saturation temperature in the RCS are a positive sign that core uncovering has begun. Incore thermocouples and the saturation meter provide the best indication of core coolant conditions.
- 4.2.2 Excore detectors (source range and intermediate range) will display deviations from expected post trip values. Variations in core water inventory produce competing effects from changes in core photo-neutron sources and shielding due to downcomer water. Increasing excore detector values are expected.
- 4.2.3 RCP's may begin to have unusual flow and power loadings (amperes) or vibrations until tripped.
- 4.2.4 Incore fission chambers can be used to determine areas of high fuel temperatures and heat generation.
- 4.2.5 Emergency Operating Procedure, Loss of Reactor Coolant (E-0-10), provides additional observables characteristic of a LOCA. (RCS pressure decreasing, containment pressure increasing, etc.)

4.3 Characteristics of Progressing Core Uncovery

- 4.3.1 RCS temperatures as indicated by Incore Thermocouples continue to exceed saturation temperature.
- 4.3.2 Fuel pins begin to rupture in hotter regions of the core (Fuel Temperatures 1400°F - 1600°F) releasing the gaseous and volatile fission products in the gap region.
- 4.3.3 Containment radiation monitor readings (R-2, R-7, and containment high radiation monitors) increase noticeably from previous levels due to the gap fission product release to containment. (Typically several percent of total core activity). Calculations indicate that between 100 and 300 mR/hr is expected for each fuel pin gap gaseous release. Therefore,

10 fuel pins gap release	1-3 R/hr
.1% fuel gap release	2-7 R/hr
1% fuel gap release	20-100 R/hr
10% fuel gap release	200-700 R/hr
100% fuel gap release	2000-7000 R/hr

NOTE: These values are only to be used as guidelines. Different monitor locations, geometries and responses preclude accurate quantitative assessment.

- 4.3.4 A more accurate failed fuel calculation can be obtained by analyzing a reactor coolant sample (RC-C-84, Percentage Failed Fuel Calculation).
- 4.3.5 Continued variations in excore detector response should not be used as the primary indication of core water level. Equivalent excore detector indications can be produced at two coolant levels. Decreasing detector values maybe indicative of core water level increasing or decreasing.
- 4.3.4 As core temperatures continue to increase above 1600°F, the zircaloy cladding and grid assemblies (Exxon fuel) would begin to react with water to form hydrogen. At greater than 2200°F, the oxidation will continue with water vapor.

Measurements of the hydrogen and oxygen fractions in containment can provide an estimate of the percent of zirconium that has been oxidized.

Fraction clad oxidized = $[\text{Fraction H}_2 - 2(\text{Fraction O}_2) + .042] \times 421$

NOTE: Use of only the indicated hydrogen fraction without correction for oxygen depletion may lead to non-conservative values.

- 4.3.7 Levels of hydrogen should be monitored to determine the likelihood of hydrogen combustion. At room temperature and 100% humidity.

<u>Hydrogen Concentration*</u>	<u>Possible Reaction</u>
0-4%	Non-combustible
4-18%	Combustible
18-59%	Explosive
59-75%	Combustible
75-100%	Non-combustible

* With high temperatures (300-500°F) and at least 50% humidity, oxygen content may limit combustion. A minimum of 4% oxygen is needed for flammability and 9% oxygen for detonability.

- 4.3.8 Incore fission chambers should continue to be used to detect any changes in core geometry. Loss of the cladding support may result in fuel relocation along support plates.

- 4.3.9 The Ag-In-Cd control rod material has a melting point of 1800°F, however this liquified alloy should remain in the stainless steel control rod cladding.
- 4.3.10 Increasing fuel temperatures cause additional fission products to diffuse through the fuel. Radiation monitor readings will continue to increase and saturation of some monitors will occur.
- 4.3.11 Subsequent pellet cooldown may cause fuel grain boundary fracturing and a substantial increase in overall diffusion, producing larger than expected radiation monitor readings.

4.4 Characteristics of Core Melting

- 4.4.1 Decreasing coolant level results in increasing temperatures.
- 4.4.2 As localized core areas reach temperatures of 2500°F stainless steel components may begin melting. The control rod cladding may release liquified Ag-In-Cd. Incore detector thimbles may fail allowing coolant or fission products movement to the seal table.
- 4.4.3 At 2700°F the zirconium oxidation becomes very vigorous.
- 4.4.4 At 3000°F fuel sintering occurs releasing approximately 40% of the fuel fission gas. Calculations using total core fission gas activities show that:

<u>Total Core Activity Released</u>	<u>Containment High Range Readings</u>
1%	10^3 - 10^4 R/hr
10%	10^4 - 10^5 R/hr
100%	10^5 - 10^6 R/hr

- 4.4.5 At 3300°F zircaloy melting terminates the vigorous oxidation.
- 4.4.6 Continued heating may lead to localized mechanical failure in lower vessel head.
- 4.4.7 Fuel pellet melting occurs at approximately 5000°F.