CATEGORY 1

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RECIP.NAME RECIPIENT AFFILIATION
Records Management Branch (Document Control Desk)

Revised 3/29/99

SUBJECT: Forwards revised listed EPIPs & rev 37 to "Nine Mile Point Site Emergency Plan." Changes are submitted,per 10CFR50,App E,Section V.

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NIAGARA MOHAWK
GENERATION
BUSINESS GROUP

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CARL D. TERRY
Vice President
Nuclear Safety Assessment and Support

January 12, 1999

United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

RE:	Nine Mile Point Unit 1	Nine Mile Point Unit 2
	Docket No. 50-220	Docket No. 50-410
	DPR-63	NPF-69

Gentlemen:

Enclosed please find copies of the following emergency procedure revisions for Niagara Mohawk Power Corporation's Nine Mile Point Nuclear Station:

- EPIP-EPP-01, Revision 08, "Classification of Emergency Conditions at Unit 1"
- EPIP-EPP-08, Revision 09, "Off-Site Dose Assessment and Protective Action Recommendation"
- EPIP-EPP-12, Revision 05, "Re-Entry Procedure"
- EPIP-EPP-14, Revision 02, "Emergency Access Control"
- EPIP-EPP-23, Revision 08, "Emergency Personnel Action Procedures"
- EPIP-EPP-24, Revision 02, "Nuclear Transportation Accidents"
- EPIP-EPP-31, Revision 00, "Control Room Support Functions from the TSC"
- EPMP-EPP-02, Revision 15, "Emergency Equipment Inventories and Checklists"
- EPMP-EPP-06, Revision 04, "Emergency Response Organization Notification Maintenance and Surveillance"
- EPMP-EPP-0101, Revision 02, "Unit 1 Emergency Classification Technical Bases"
- EPMP-EPP-0102, Revision 03, "Unit 2 Emergency Classification Technical Bases"
- Nine Mile Point Site Emergency Plan, Revision 37

These procedure changes are being submitted as required by Section V to Appendix E of 10 CFR Part 50. Should you have any questions, please feel free to contact Mr. James D. Jones, Director of Emergency Preparedness at (315) 349-4486.

Very truly yours,

Carl D. Terry
Vice President Nuclear Safety Assessment and Support

220009

/cld
Enclosure
xc:
Mr. H.J. Miller, Regional Administrator, Region I (2 copies)
Mr. G. K. Hunegs, Senior Resident Inspector (1 copy)
Mr. D.S. Hood, Senior Project Manager, NRR (1 copy)
Mr. S.S. Bajwa, Director, Project Directorate, I-1, NRR (letter only)
Records Management

A045

50-220 Superseded Per Rev 5 To Site Emerg Plan, EPIP's, & EAPIs Dtd 1/12/99 #9901220355

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EPIP-EPP-01

REVISION 07

CLASSIFICATION OF EMERGENCY CONDITIONS AT UNIT 1

TECHNICAL SPECIFICATION REQUIRED

Approved by:
N. L. Rademacher — Plant Manager - Unit 1 — Date 2/26/97

THIS IS A FULL REVISION

PERIODIC REVIEW, 02/08/98, NO CHANGE

Effective Date: 06/26/97

PERIODIC REVIEW DUE DATE FEBRUARY 1999

LIST OF EFFECTIVE PAGES

Page No.	Change No.	Page No.	Change No.	Page No.	Change No.
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1.0 PURPOSE

Provide the Control Room staff and Site Emergency Director with the criteria and method for classifying abnormal conditions into one of the four emergency classifications.

2.0 PRIMARY RESPONSIBILITIES

2.1 Station Shift Supervisor (SSS)

- Maintains awareness of any abnormal plant conditions or occurrences and evaluates the need to classify the condition in accordance with this procedure.
- Upon initial declaration of an emergency, assumes the role of Site Emergency Director (SED) and functions as the SED until relieved of those duties by the on-call SED, other SRO or the emergency is terminated.
- Declares any subsequent emergency classifications based on available information until relieved of SED, or other active SRO duties or the emergency is terminated.
- For conditions classified as an Unusual Event, terminating the emergency in accordance with EPIP-EPP-25 "Reclassification and Recovery".

2.2 Site Emergency Director (SED)

- Upon activation of the TSC, relieves the SSS of the SED duties in accordance with EPIP-EPP-18 "Activation and Direction of the Emergency Plans".
- Maintains awareness of any abnormal plant conditions or occurrences and evaluates the need to re-classify the condition in accordance with this procedure and in concurrence with the Corporate Emergency Director.
- For conditions classified as an Alert or higher, terminating the emergency in accordance with EPIP-EPP-25 "Reclassification and Recovery".

2.3 Corporate Emergency Director (CED)

For conditions classified as an Alert or higher, concur with the emergency classification or reclassification as determined by the SED.

3.0 PROCEDURE

NOTES: 1. Entry into an emergency classification is not expected for planned outages of systems or equipment in which compensatory measures have been taken.

2. The SSS/SED should not delay actions that would mitigate or prevent an emergency or off-normal conditions, to classify an event. However, all events should be classified in accordance with this procedure no later than 15 minutes after indications are available in the Control Room that an EAL has been exceeded.

3.1 Station Shift Supervisor/Site Emergency Director and Site Emergency Director (TSC)

3.1.1 Continually monitor and evaluate plant conditions to determine if one or more emergency action level thresholds have been met or exceeded -Emergency Action Level Matrix (Attachment 1).

3.1.2 While performing the following steps:

a. IF: An abnormal condition exists which meets or exceeds an emergency action level for a classification higher than is currently declared

THEN: Go to Step 3.1.3 of this procedure

b. IF: It is determined that the emergency has been over classified OR that the current emergency classification is no longer warranted

THEN: Enter EPIP-EPP-25 "Emergency Reclassification and Recovery" and execute it concurrently with this procedure.

c. IF: An EAL has been met or exceeded, but the EAL threshold or emergency condition no longer exists prior to making the emergency declaration (transitory event),

THEN:
1. Classify current conditions and declare the emergency, if necessary.
2. Make notifications required for the declared emergency in accordance with EPIP-EPP-20.
3. Notify State, County and NRC of transitory event (even if no emergency is declared).

NOTE: The same Part 1 Notification Fact Sheet and NRC Notification Worksheet can be used to execute Steps 3.1.2.c.2 and 3.1.2.c.3.

3.1.3 IF: One or more emergency action level thresholds have been met or exceeded - Emergency Action Level Matrix (Attachment 1)

THEN:

a. declare the highest level emergency classification for which an EAL is currently being met or exceeded

b. Enter EPIP-EPP-18 "Activation and Direction of the Emergency Plans" and execute it concurrently with this procedure

3.1.4 WHEN: It has been determined that an emergency condition no longer exists

THEN: Enter EPIP-EPP-25 "Emergency Reclassification and Recovery" and execute it concurrently with this procedure.

3.2 If the emergency declaration is due to an initiating condition affecting both Unit 1 and Unit 2, then the Unit 1 SSS shall assume the role of SED.

4.0 DEFINITIONS

Unusual Event - Events are 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.

Alert - Events are in progress or have occurred which degrade plant safety systems to the extent that increased monitoring of plant safety functions is warranted. Any releases from these events are expected to be limited to small fractions of the EPA Protective Action Guideline plume exposure levels outside the site boundary.

Site Area Emergency - Events are in progress or have occurred which involve actual or likely major failures of plant functions intended for protection of the public. Releases are not expected to exceed EPA Protection Action Guideline plume exposure levels outside the site boundary.

General Emergency - Events are in progress or have occurred which involve actual or imminent substantial core degradation with potential for loss of containment integrity. Any releases from these events can be reasonably expected to exceed EPA Protective Action Guideline plume exposure levels outside the site boundary.

Transitory Event - An event in which an emergency action level has been exceeded but the condition no longer warrants classification at that level prior to making the emergency declaration.

4.0 (Cont)

Classification - Categorization of plant conditions or events into the appropriate emergency classification level.

Declaration - Announcement in the Control Room or TSC that an EAL has been met and an emergency classification level has been entered.

5.0 REFERENCES AND COMMITMENTS

5.1 Licensee Documentation

Unit 1 UFSAR, Chapter XIII

5.2 Standards, Regulations, Codes

- NUMARC NESP-007, Methodology for the Development of Emergency Action Levels

5.3 Policies, Programs and Procedures

- EPMP-EPP-0101, Unit 1 Emergency Classification Technical Bases
- EPIP-EPP-18, Activation of the Emergency Plan
- EPIP-EPP-25, Emergency Reclassification and Recovery
- NRC Emergency Preparedness Position (EPPOS) #2, "Timeliness of Classification of Emergency Conditions"

5.4 Commitments

None

6.0 RECORD REVIEW AND DISPOSITION

The following records generated by this procedure as a result of actual declared emergency at the Nine Mile Point Nuclear Station shall be maintained by Nuclear Records Management for the Permanent Plant File in accordance with NIP-RMG-01.

Not Applicable

The following records generated by this procedure as a result of EP Drills/Exercises are not required for retention in the Permanent Plant File.

Not Applicable

This page represents the

Emergency Action Level Matrix/Unit 1

which is too large to fit in this document.

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EPIP-EPP-08

REVISION 08

OFF-SITE DOSE ASSESSMENT AND PROTECTIVE ACTION RECOMMENDATION

TECHNICAL SPECIFICATION REQUIRED

Approved By: R. G. Smith — Plant Manager - Unit 1 — Date: 3/17/98

Approved By: K. A. Dahlberg — Plant Manager - Unit 2 — Date: 3/19/98

THIS IS A FULL REVISION

Effective Date: 04/01/98

PERIODIC REVIEW DUE DATE: MARCH 1999

LIST OF EFFECTIVE PAGES

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1.0 PURPOSE

To provide the methods for determining meteorology data, release rates, dose assessment and protective actions during accident conditions at Nine Mile Point.

2.0 PRIMARY RESPONSIBILITIES

2.1 The Station Shift Supervisor/Site Emergency Director (SSS/SED):

2.1.1 Ensures meteorological data acquisition, release rate determination, and dose assessment are performed during the initial stages of an emergency to support development of Protective Action Recommendations (PARs)

2.1.2 Approves PARs and ensures their timely issue to the State and County

2.2 The Corporate Emergency Director (CED) approves PARs prior to their transmittal to the State and County, following EOF activation.

2.3 The Radiation Assessment Manager (RAM) is responsible to the SED for managing the onsite radiological monitoring and assessment aspects of the station during an emergency, following TSC activation.

2.4 Chemistry Technicians perform release rate assessments, obtain meteorological data, and develop PARs, prior to EOF activation.

2.5 The Offsite Dose Assessment Manager (ODAM) manages the offsite dose aspects of an emergency in order to assess the radiological consequences to the public, following EOF activation.

2.6 The Radiological Assessment Staff is responsible to the ODAM for obtaining meteorological data, determining source term, performing dose assessment, and developing PARs, following EOF activation.

3.0 PROCEDURE

3.1 Dose Assessment and Protective Action from the Control Room

* *

CAUTION

Calculation involving the determination of release rates and/or protection action shall be self-checked for accuracy.

* *

3.1.1 Chemistry Technician Actions

a. Consult the SSS/SED on plant conditions and possible release paths. If a General Emergency has been declared, assist SSS/SED in making Protective Action Recommendations based on plant conditions using Attachment 1.

b. Access EDAMS computer using Attachment 2

c. Obtain meteorological data using Attachment 3.

d. Assess effluent monitor readings and conditions.

e. Determine release rate using Attachment 4. Combine multiple release points as follows:

1. Sum all release points from the same elevation (ground or elevated).

2. Calculate the total release rate from combined ground and elevated sources using the workspace on Attachment 1.

f. Use Attachment 1 flowchart and advise SSS/SED of any PARs recommended by the flowchart.

g. IF an unmonitored atmospheric release is suspected or known to be in progress, assist the SSS/SED in the following actions:

1. Advise the SSS/SED to expedite the dispatch of Radiation Protection (RP) Technician. Request assistance of the unaffected Unit or J.A. Fitzpatrick if needed.

2. The RP Technician should be dispatched to potential plume centerline (wind direction (degrees) ± 180° = plume centerline), as close to the site boundary as practicable. See Attachment 1, Figure 1.4 for Site boundary location.

3. IF readings indicate > 1 rem/hr based on field survey perform the actions indicated in Attachment 1.

h. Assist Communications Aide in completing the meteorological data and release rate sections of the Part 1 Notification Fact Sheet.

i. Continue to monitor meteorological data, changes in effluent conditions or conditions that might lead to abnormal radiological effluents.

3.1.1 (Cont)

j. When requested, turn over all duties to the EOF.

3.1.2 SSS Actions

a. Verify that the Chemistry Technician is performing dose assessment and protective action development in a timely fashion and in accordance with Attachment 1.

b. Assess any release rates provided by the Chemistry Technician against the Emergency Action Levels (EAL).

c. Review AND approve PARs recorded on the Notification Fact Sheet Part 1, as required. Use ERPA map in Attachment 1 if desired.

3.2 Dose Assessment and Protective Actions from the EOF

3.2.1 Offsite Dose Assessment Manager (ODAM) Actions

NOTE: IF at any time the initiating conditions listed in Attachment 1 are met, THEN perform the actions listed in that attachment.

a. Perform actions as indicated in EPIP-EPP-23.

b. Verify Environmental Survey Sample Team Coordinator has been assigned and is:

1. Preparing for the dispatch of downwind survey teams.

2. Is aware of meteorological advisor status.

c. Perform or have performed the following:

1. Obtain meteorology data using Attachment 3 of this procedure.

2. Obtain effluent monitor readings and calculate release rate using Attachment 4 of this procedure.

3. Perform dose assessment calculation using Attachment 5 of this procedure.

d. Determine PARs using Attachment 5 of this procedure.

e. Interface with State and County representatives in the EOF.

1. Keep State/County representatives informed of confirmed data and results.

3.2.1 (Cont)

f. Complete Part 2 Notification Fact Sheet when ANY of the following conditions exist or are met:

1. Rad release that exceeds Tech Specification limits.

2. Significant changes in meteorological OR rad release conditions.

3. Every 30 minutes.

g. With each significant change in meteorological, actual release rate, and dose assessment data, OR every 30 minutes.

h. Constantly reassess effluent monitors (release rate) and meteorological data for changes. Perform new dose assessment as needed. Develop new PARs and/or verify the adequacy of PARs already made.

i. As Downwind Survey Team (DST) becomes available, utilize it to verify release rates. If these refined release rates differ significantly from those calculated from effluent monitor readings, reperform dose assessment using refined release rates.

j. Provide data for the Part 1 Notification Fact Sheet as requested.

k. Provide CED with pertinent information as needed.

1. Changing radiological conditions that may lead to PARs.

2. Protective actions for site staff.

ℓ. Maintain Chronological Release Rate Log (see Attachment 5.1).

3.2.2 <u>EOF Dose Assessment Staff</u>

a. IF at any time the initiating conditions listed in Attachment 1 are met, THEN perform the actions listed in that attachment.

b. Perform actions as indicated in EPIP-EPP-23.

c. Perform any actions as requested by the ODAM, including:

- Obtaining meteorological data (Attachment 3)

3.2.2.c (Cont)

- Obtaining release rate data (Attachment 4)
- Performing dose assessment and protective action recommendations (Attachment 5)

4.0 DEFINITIONS

4.1 CDE_T. Committed dose equivalent to the thyroid for the child.

4.2 EDAMS. Emergency Dose Assessment Modeling System. A PC-based computer program that calculates release rates, doses and protective actions, and obtains meteorological data for emergencies.

4.3 MMS. Meteorological Monitoring System. Consists of the dedicated computer, main, backup and inland towers and software. Stores and edits site meteorological data.

4.4 RADDOSE. A subprogram of EDAMS, it performs the dose assessment functions during emergencies.

4.5 SHELTERING. A protective action whose benefit is to bring the public to a heightened state of awareness. No dose reduction is assumed for sheltering.

TEDE. Total Effective Dose Equivalent.

5.0 REFERENCES/COMMITMENTS

5.1 Technical Specifications

None

5.2 Licensee Documentation

5.2.1 NMP Unit 1 FSAR, Section XV

a. Table XV-32

b. Table XV-28

c. Table XV-29

d. Table XV-23

e. Table XV-29d

f. Section 1.3.1

g. Section 2.1

5.2.2 NMP Unit 2 USAR, Section 15

a. Table 15.6-15b

b. Table 15.4-12

c. Table 15.7-11

d. Table 15.6-8

e. Table 15.7-4

f. Table 15.6-3

g. Table 16.6-19

5.2.3 SEP, NMPC Nine Mile Point Nuclear Station Site Emergency Plan

5.2.4 NMPC Correspondence 96-MET-001 (Backup Tower Wind Speed Correction Factor)

5.2.5 NMP Correspondence 96-MET-002 (Main Tower Wind Speed Correction Factor)

5.2.6 NMP Correspondence 96-MET-004 (Backup Tower Wind Direction Concerns)

5.2.7 NMP Correspondence 96-MET-003 (Discussion at DER C-95-0693)

5.2.8 NMP Correspondence 96-MET-005 (Main Tower 30' Sigma Theta Concern)

5.2.9 NMP Correspondence 97-MET-002 (Main Tower Wind Obstructions)

5.3 Standards, Regulations, and Codes

NUREG-0654, FEMA-REP-1, Rev 1, Supp 3, Criteria for Protective Action Recommendations for Severe Accidents

5.4 Policies, Programs, and Procedures

5.4.1 EPIP-EPP-07, Downwind Radiological Monitoring

5.4.2 EPIP-EPP-15, Health Physics Procedure

5.4.3 EPIP-EPP-23, Emergency Personnel Action Procedures

5.5 Commitments

DER C-95-0693 (for Attachment 3)

6.0 RECORDS REVIEW AND DISPOSITION

The following records generated by this procedure shall be maintained by Records Management for the Permanent Plant File in accordance with NIP-RMG-01, Records Management:

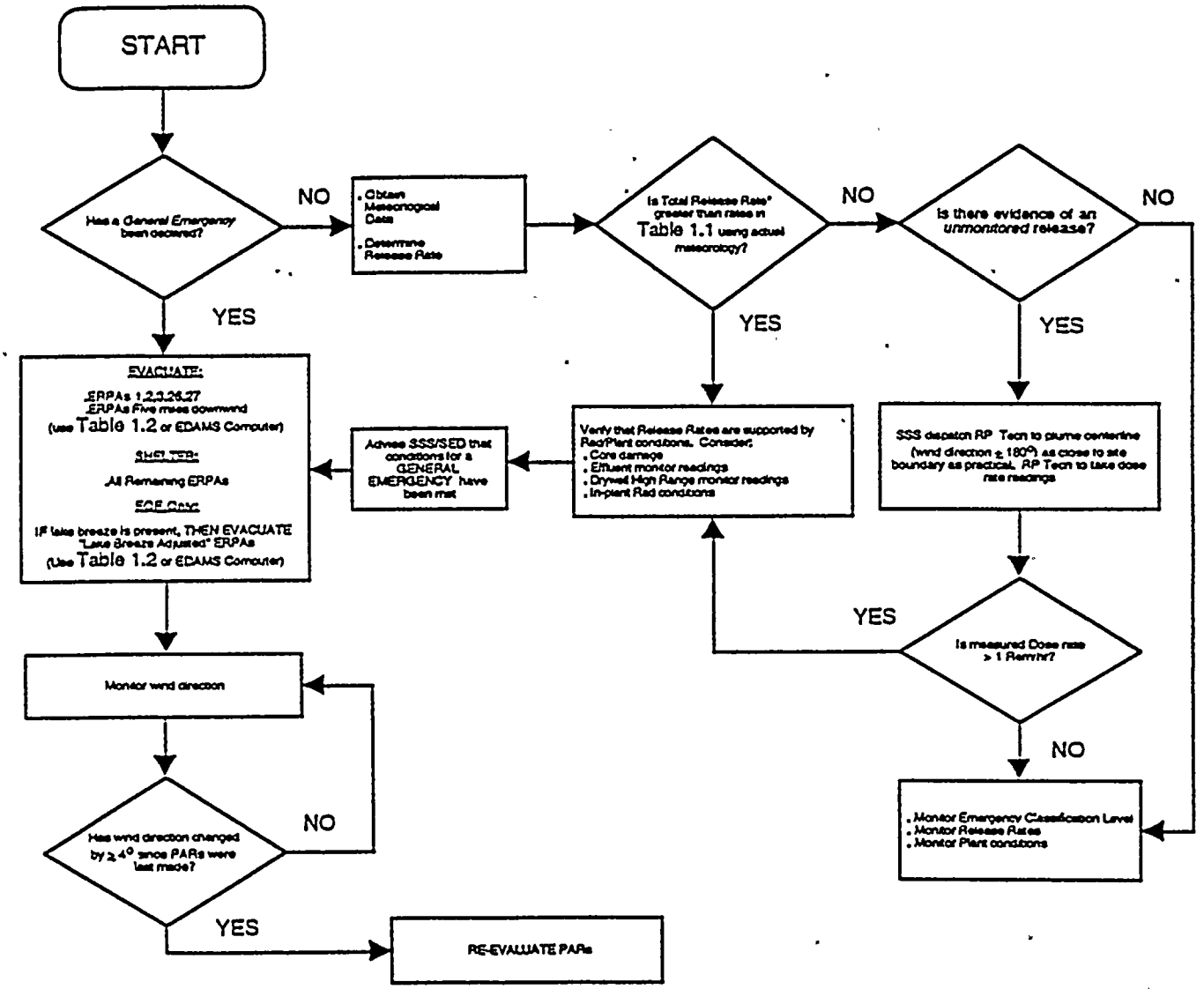
NOTE: For records generated due to an actual declared emergency only.

- Attachment 1, Initial Dose Assessment and Protective Actions
- Attachment 4, Release Rate Determination
- Figure 5.1, Chronological Release Rate Log
- Figure 5.2, EDAMS Data Entry Form

6.2 The following records generated by this procedure are not required for retention in the Permanent Plant File:

NOTE: For records generated NOT due to an actual declared emergency only.

- Attachment 1, Initial Dose Assessment and Protective Actions
- Attachment 4, Release Rate Determination
- Figure 5.1, Chronological Release Rate Log
- Figure 5.2, EDAMS Data Entry Form



*Use this formula if release has a ground AND elevated source:

$$\left[\frac{\text{Ground Release Rate (Ci/s)}}{\text{Table 1.1 Ground Release Rate (Ci/s)}}\right] + \left[\frac{\text{Elevated Release Rate (Ci/s)}}{\text{Table 1.1 Elevated release rate (Ci/s)}}\right] = \text{IF} \geq 1\text{, A General Emergency Exists}$$

$$\left[\frac{\quad}{\quad}\right] + \left[\frac{\quad}{\quad}\right] =$$

TABLE 1.1 - GENERAL EMERGENCY RELEASE RATES

Ground Release (Ci/s)				
Wind Speed (mi/h)	Stability Class			
	A	B/C	D	E/F/G
0-3	1333	213	119	38
4-6	3226	286	143	48
7-9	5556	526	250	83
10-13	7692	769	357	117
14-17	10753	1075	500	164
18-21	13514	1389	667	213
>21	16393	1667	833	256

Elevated Release (Ci/s)				
Wind Speed (mi/h)	Stability Class			
	A	B/C	D	E/F/G
0-3	2041	1124	3030	769
4-6	3703	909	769	769
7-9	5882	1515	1075	1250
10-13	7692	2083	1388	1724
14-17	11494	2857	1818	2273
18-21	14286	3704	2273	2778
>21	17241	4348	2632	3226

TABLE 1.2 - AFFECTED ERPAs

Wind Direction From	5 Mile Radius		10 Mile Radius	Lake Breeze Adjusted (5 Mile Radius)
214 to 222			14, 29	
223 to 233			14, 29	4, 7
234 to 240	7		14, 15, 29	4
241 to 254	4, 7		14, 15, 29	9
255 to 262	4, 7		14, 15, 16, 17, 29	9
263 to 278	4, 7, 9		8, 14, 15, 16, 17, 29	5
279 to 292	4, 5, 7, 9		8, 14, 15, 16, 17, 18, 29	10
293 to 305	4, 5, 7, 9, 10		8, 14, 15, 16, 17, 18, 29	
306 to 311	4, 5, 7, 9, 10		8, 14, 15, 16, 17, 18, 19, 20, 29	
312 to 332	4, 5, 7, 9, 10		8, 14, 15, 16, 17, 18, 19, 20	6, 11
333 to 340	4, 5, 9, 10, 11		8, 15, 16, 17, 18, 19, 20, 21, 25	6, 7, 12
341 to 349	4, 5, 9, 10, 11		8, 17, 18, 19, 20, 21, 24, 25,	6, 7, 12
350 to 356	5, 6, 9, 10, 11		8, 13, 18, 19, 20, 21, 22, 24, 25, 12	4, 7
357 to 12	5, 6, 9, 10, 11		13, 18, 19, 20, 21, 22, 23, 24, 25, 12	4
13 to 20	5, 6, 10, 11		13, 18, 19, 20, 21, 22, 23, 24, 25, 12	4, 9
21 to 51	5, 6, 10, 11		13, 19, 20, 21, 22, 23, 24, 25, 28, 12	9
52 to 56	5, 6, 11		13, 19, 20, 21, 22, 23, 24, 28, 12	10
57 to 61	5, 6, 11		13, 19, 21, 22, 23, 24, 28, 12	10
62 to 70	6, 11		13, 19, 21, 22, 23, 24, 28, 12	10
71 to 89	6		13, 21, 22, 23, 24, 28, 12	11
90 to 95	6		28	5, 11, 12
96 to 114			28	6, 12
115 to 146			28	
147 to 213			28, 29	

EOF Only beyond this line!

TABLE 1.3 - EPA 400 Protective Action Guidelines (EPA PAGs)

PAR	TEDE (rem)	CDE_T (rem)
Evacuate	> 1	> 5

FIGURE 1.4 - Site Boundary Map

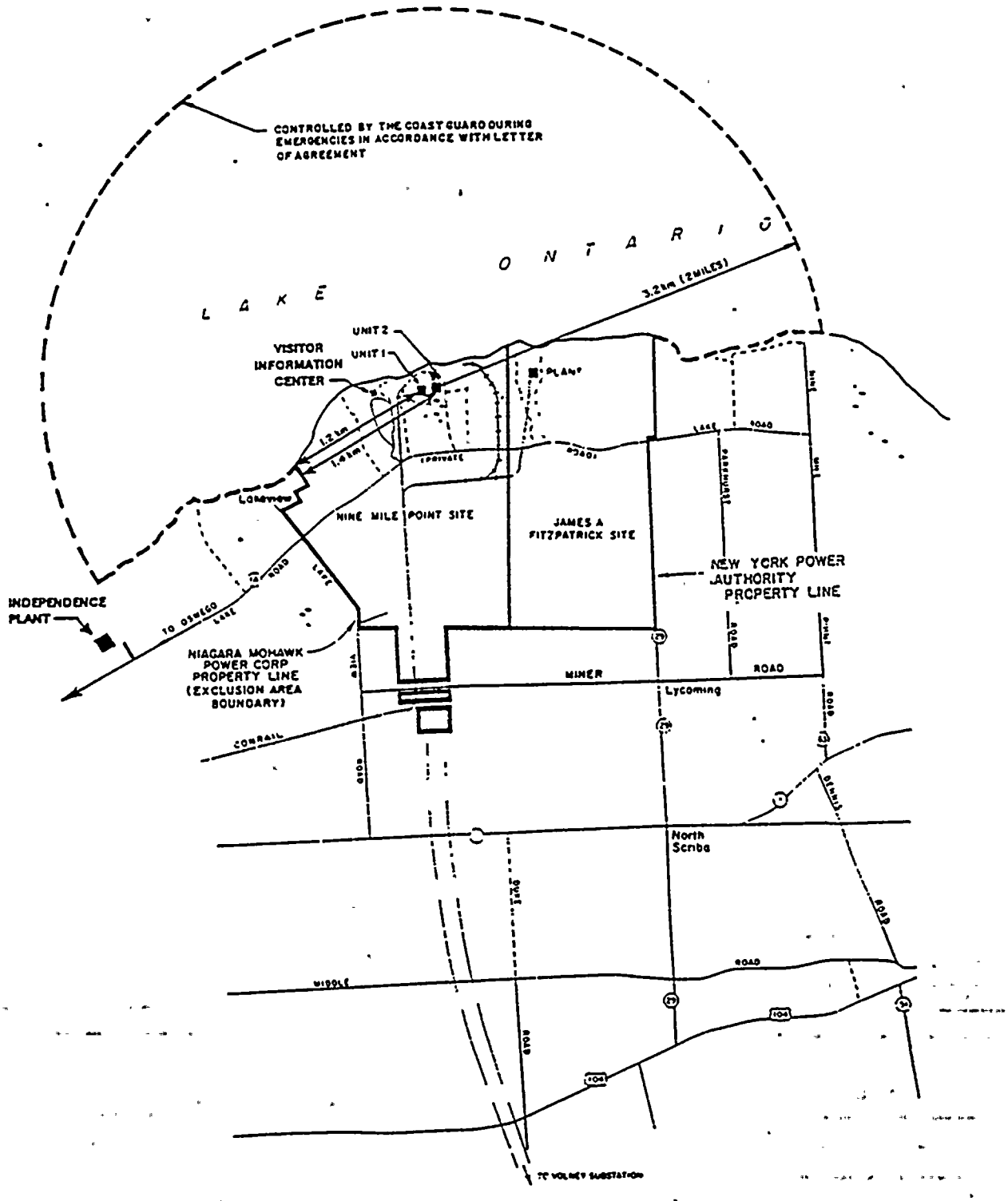
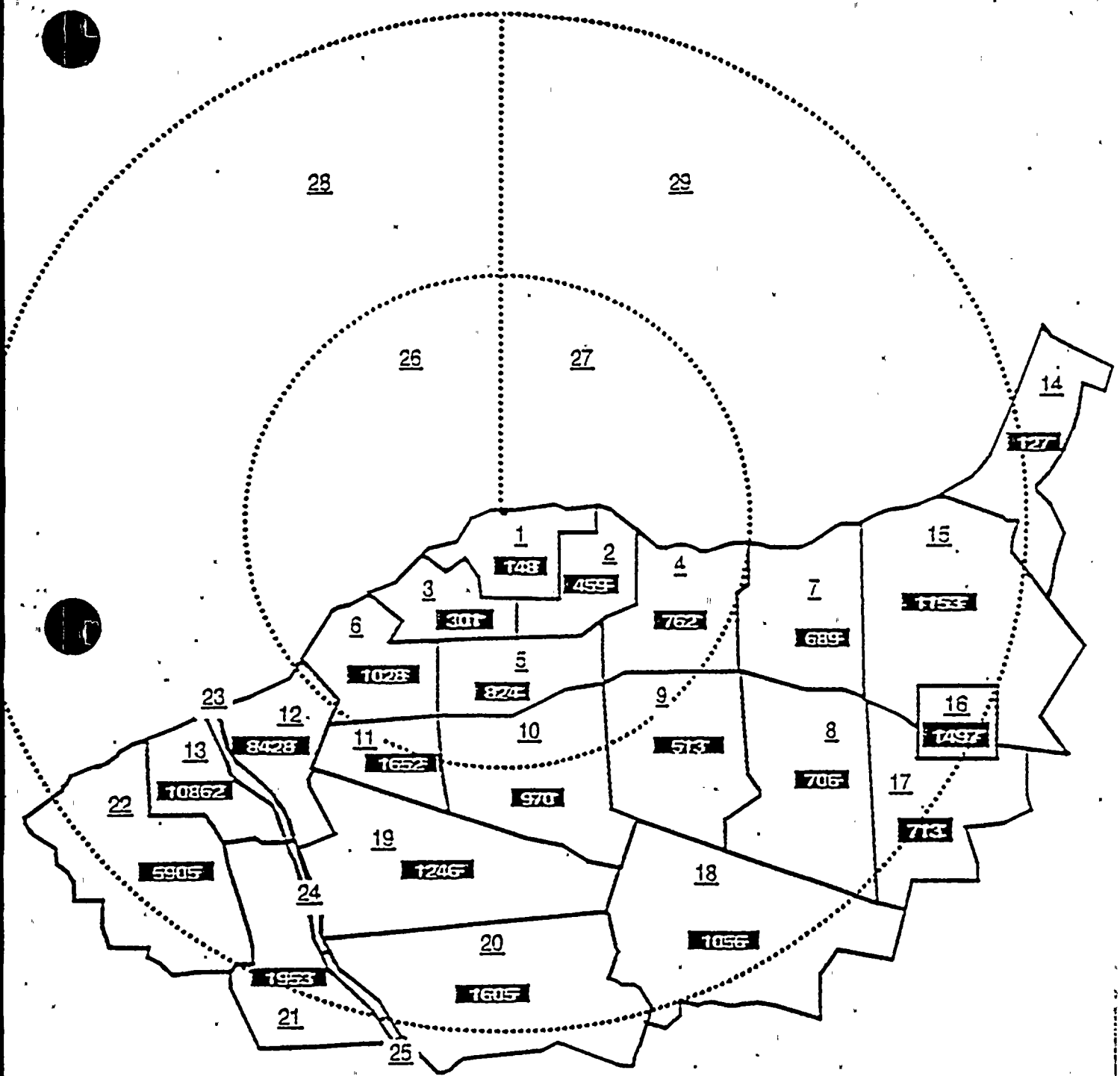


FIGURE 1.5 - ERPA Map



LEGEND 1 ERPA Number 148 ERPA Population

For the Control Room, see Section 1.0 below. For the EOF, see Section 2.0 below.

1.0 CONTROL ROOM EDAMS

1.1 Turn the system on: Turn on the power to the EDAMS computer, monitor, and printer. After the computer boots, the EDAMS log-in menu will appear (Figure 2.1), and the default log-in selection will be highlighted.

1.2 Computer problems

a. If at any time problems are experienced with the computer, depress the eject button on the front of the computer. This will eject the laptop computer. Continue this procedure with the laptop.

b. If the laptop should fail, have Chemistry Tech from the unaffected Unit go to the unaffected Control Room and bring the EDAMS laptop back to the affected Control Room and continue with this procedure.

NOTE: In this case, meteorological data will have to be obtained manually.

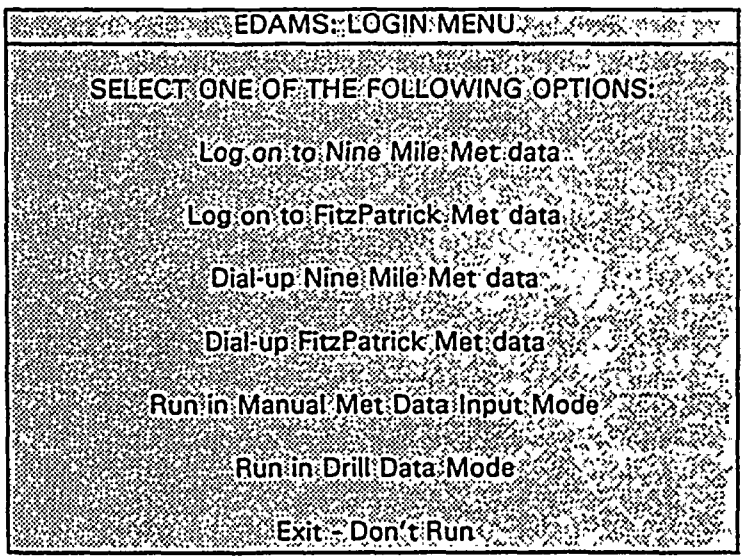
2.0 EOF EDAMS

2.1 Turn the system on: Turn on the power to the EDAMS computer, monitor, and printer. After the computer boots, the EDAMS log-in menu will appear (Figure 2.1), and the default log-in selection will be highlighted.

2.2 Computer problems.

- If at any time problems are experienced with the computer, use the duplicate EDAMS computer in the EOF.

FIGURE 2.1 - EDAMS Main Menu



3.0 SYSTEM USE

3.1 A brief description of each EDAMS Main selections is found below.

a. Release Rate Calculation. Computerized worksheets for all methods of release rates. This option is plant specific.

b. Emergency Meteorology Report. A single screen that contains the latest fifteen minute meteorology data.

c. Dose Assessment Model: RADDOSE IV. Emergency dose assessment model. All plant specific release rate methods are available, and the latest fifteen minute meteorology data is automatically inputted to the model.

d. Protective Action Recommendations. Determine PARs for each Emergency Response Planning Area (ERPA)

e. Other Selections:

- Miscellaneous Meteorological Reports. (For Met Advisor use) Contains the Emergency Meteorology Report and historical meteorological data for all three towers.
- RASCAL. RASCAL is the NRCs dose assessment model. The most recent version is included in EDAMS for general use.
- Field Team Calculations. Provides a method for calculating results from downwind survey teams.

f. Logoff

4.0 EDAMS DOSE MODEL LIMITATIONS

4.1 A calculational limitation of the dose assessment model occurs when an extreme wind (direction) shift takes place. The model may not calculate doses in sectors that the plume skips over entirely within a single 15 minute calculation step.

4.2 EDAMS only allows the operation of one application at a time.

4.3 Dose rates and deposition rates reported by the model are the maximum for the sector, not necessarily the dose rate or deposition rate at the center of the sector. This avoids the situation of a narrow (stable) plume slipping between receptor points and being missed.

4.4 Deposition data reported is not intended for an environmental evaluation; its intent is to indicate areas of potentially high ground level concentrations.

1.0 OBTAINING METEOROLOGICAL DATA

The methods of obtaining meteorological data are listed below in the order that they should be used.

- EDAMS (see Section 3.0 of this Attachment)
- Strip Chart Recorder (see Section 4.0 of this Attachment)
- Manual input from alternate sources (see Section 5.0 of this Attachment)

2.0 USE OF METEOROLOGICAL DATA: GENERAL CONDITIONS

NOTE: Wind speed measurements at both the main and backup towers may on occasion be less than actual observed winds. When using the main tower winds and the wind direction is between 0° and 100° or when using the backup tower and the wind direction is between 220° and 270°, caution should be exercised when estimating plume arrival time, its likely that the plume will arrive sooner than what the wind speed would indicate. Additionally the actual dose may be less than forecast by EDAMS.

2.1 Hierarchy of NMP meteorological data sources is shown in Table 3.1 below.

NOTE: Heights of meteorological instrumentation is approximate.

2.2 If substitute data is to be used, consult the Meteorological Advisor (if available).

2.3 If using the 90' sigma theta as a substitute stability for either elevated or ground level release, the following corrections should be made:

- If the winds blow from 232° to 246° and 270° to 281°, add one stability class such that a D becomes an E, C becomes a D and so on. If the original class is a G then no changes should be made.
- If the winds blow from 247° to 269°, two stability classes should be added such that a D becomes an F, C becomes an E and so on. If the original class is either an E, F, or G, the class should become a G.

2.4 If no release is in progress, or release path is unknown, use elevated data (200' main tower), or substitute as outlined in Table 3.1.

2.5 If using the 30' sigma theta and the wind is blowing from 035° to 076°, substitute to the next source per Table 3.1.

2.6 The Meteorological Advisor may use any source (Sodar, other towers, characterization tables, etc.) or skills of the trade to satisfy the need for meteorological data.

TABLE 3.1: HIERARCHY FOR USE OF NMP METEOROLOGICAL DATA SOURCES

Parameter	Hierarchy	Sources	
		Elevated Release	Ground Release
Wind Speed & Direction	Primary[1]	200' Main	30' Main
	Substitutes	100' Main	
		90' JAF	
Stability	Primary [1]	200' ΔT	30' Sigma Theta [2]
	Substitutes	30' Sigma Theta [2]	200' ΔT
		33' Inland Sigma Theta	

(1) Primary equals Primary Backup for Unit 2

(2) If using 30' sigma theta, AND the wind is from 035° to 076°, THEN substitute the next source of data in accordance with Table 3.1 of this attachment.

2.7 Refer to Figure 3.2 to determine if lake breeze is a possibility (EOF only).

2.8 Refer to Figure 3.3 to determine if land breeze is a possibility (EOF only).

3.0 EDAMS

3.1 To obtain meteorological data for the Notification Fact Sheet Part 1, select Emergency Meteorological Report from the EDAMS main menu. Select the data as discussed in Table 3.1.

3.2 Hit the F5 Key to print the data.

4.0 STRIP CHART RECORDER

* *

CAUTION

Do not use the LED readouts associated with the strip chart recorders.

* *

NOTE: Use this data only if the method described in Section 3.0 of this Attachment is unavailable.

4.1 Strip chart meteorological data can be found in both of the Control Rooms, and in the TSC. Utilize Table 3.1 to determine source of data.

NOTE: ΔT cannot be obtained in the TSC. Utilize $\sigma\theta$ in determining stability.

4.2 Figures 3.4 and 3.5 show sample strip chart traces showing ambient air temperature, ΔT, $\sigma\theta$, wind speed and direction data.

4.3 Observe the values of the vertical temperature difference, ΔT, from the primary meteorological tower over the last 15 minute period. The preferred reading is the 30'-200' Delta temperature reading, for an elevated (stack) release.

4.4 Compare the values of ΔT to the Stability Classification Chart (Table 3.6) and select the appropriate stability class and record.

4.5 If values of ΔT are not available, then observe the values of $\sigma\theta$, directly from the primary or backup meteorological tower recorders, over the last 15 minute period.

4.6 Compare these values of $\sigma\theta$ to Table 3.6. Using the chart, select the appropriate stability class and record.

4.7 If both data are available, use the ΔT at 30'-200' elevation for elevated releases: use $\sigma\theta$ at the 30' elevation for ground (vent) releases.

4.8 If values for ΔT and $\sigma\theta$ are not available, then observe the wind direction trace over the last 15 minute period. Determine $\sigma\theta$ by dividing the horizontal deviation of the wind direction trace over the last 15 minutes by 6. To make reading of the strip charts easier, you may want to advance the chart.

5.0 MANUAL INPUT FROM ALTERNATE SOURCES

NOTE: Use this data only if the methods described in Section 3 and 4 of Attachment 3 are unavailable.

* *

CAUTION

Data obtained by the methods described below will not be site-specific and will likely introduce errors into dose assessments. The Meteorological advisor shall be consulted regarding the use of all substitute data. If the Meteorological advisor is not available, use the data as obtained.

* *

5.1 National Weather Service

a. Telephone the National Weather Service (NWS) in Buffalo at 800-462-7751 or 716-565-9001.

b. Request the current wind speed and direction, stability class and temperature.

c. Use this data as follows:

1. Wind speed (NWS) = elevated and ground wind speed

2. Wind Direction (NWS) = elevated and ground wind direction

3. Stability Class (NWS) = stability class

5.1.c (Cont)

4. Temperature (NWS) = ambient temperature

Other Sources

a. Other sources of meteorological data that may be utilized are as follows:

1. SODAR

2. Other (non-NWS) meteorology towers

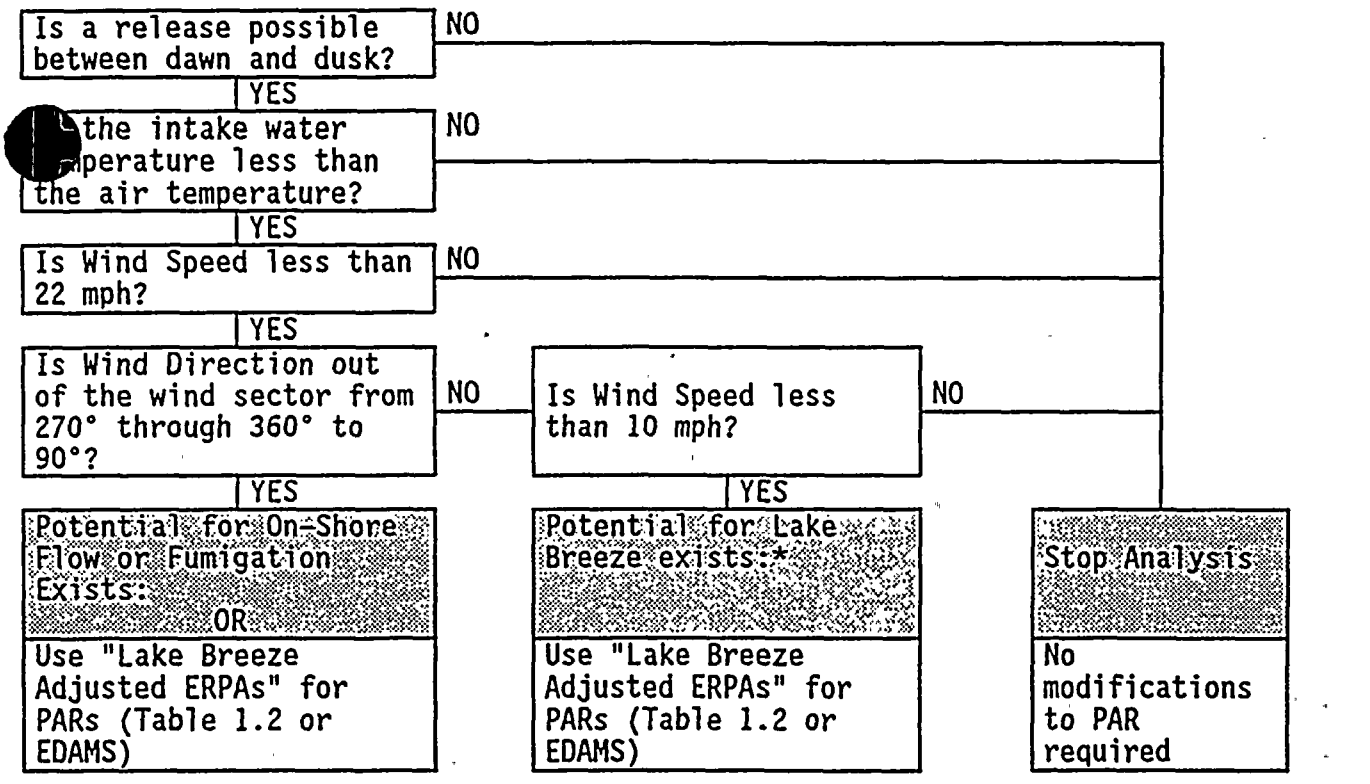
3. Commercial weather services

FIGURE 3.2
Lake Breeze/On-Shore Flow and Fumigation Flow Chart

1. Obtain meteorological data per Section 1.0 of this Attachment.

2. Obtain lake intake water temperature from Unit 1 or 2 process computer or from Control Rooms.

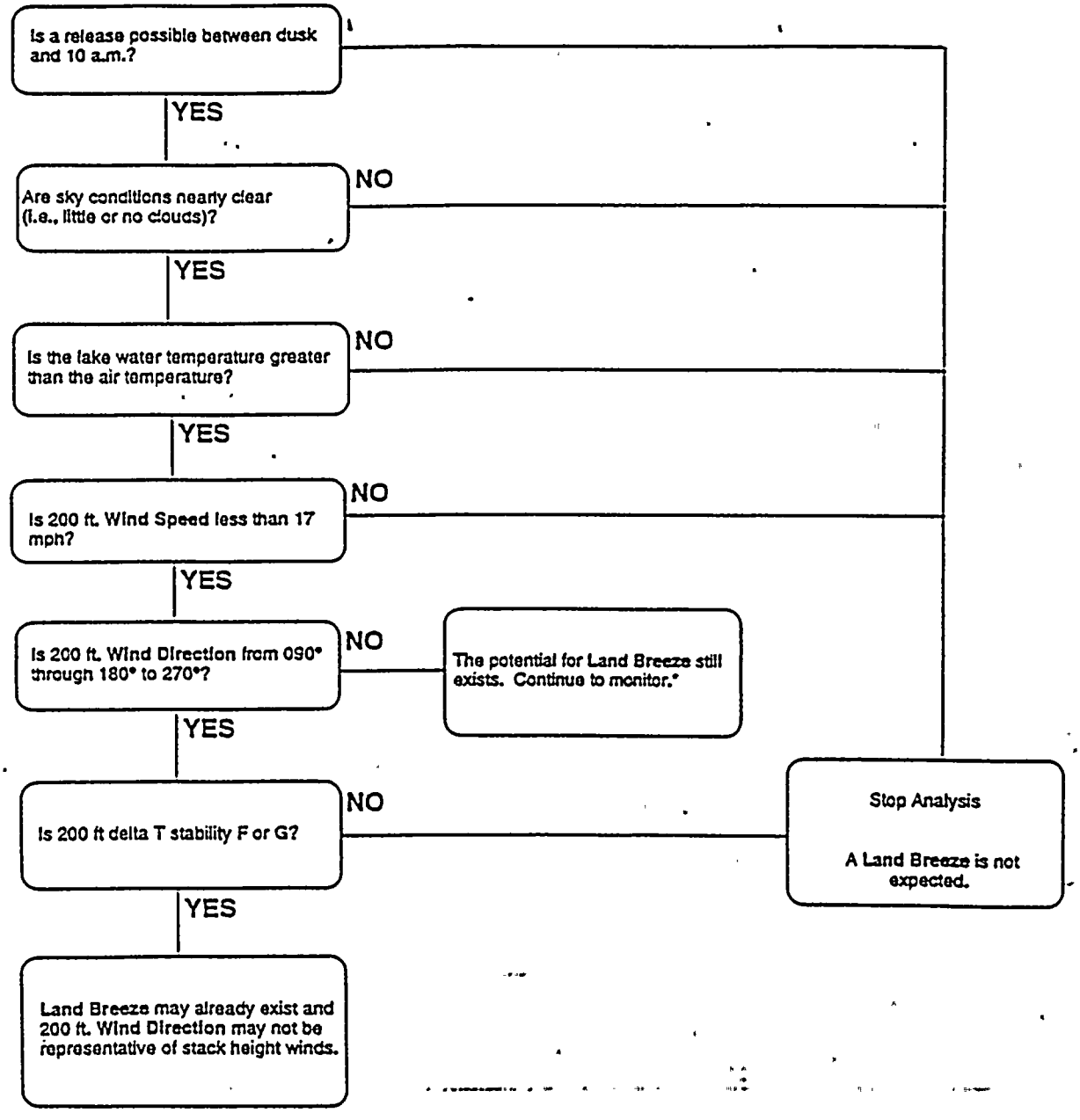
3. Follow the flow chart answering the appropriate questions.



* Also note that there is a potential for a sudden shift in wind direction to 245° through to 65° if the lake breeze has not already formed.

FIGURE 3.3
LAND BREEZE FLOW CHART

1. Obtain Meteorological Data.
2. Obtain lake temperature.
3. Follow the flow chart answering the appropriate questions.



*NOTE: There is a potential for a shift in Wind Direction to 090° through 180° to 270° at the weather tower.

FIGURE 3.4
SAMPLE AIR TEMPERATURE AND STABILITY CLASS TRACE - CONTROL ROOM

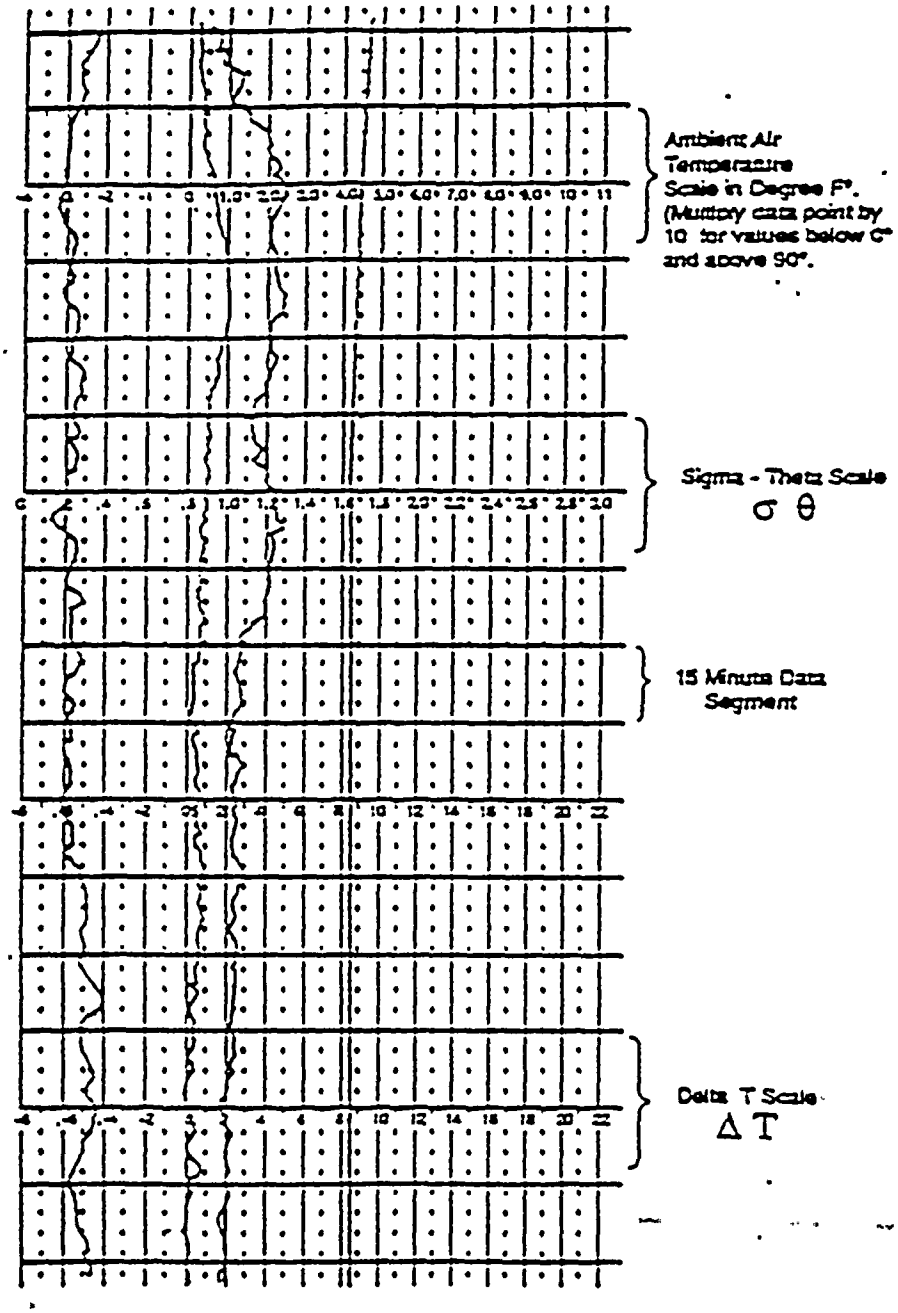


FIGURE 3.5
SAMPLE WIND SPEED AND WIND DIRECTION TRACE - CONTROL ROOM/TSC

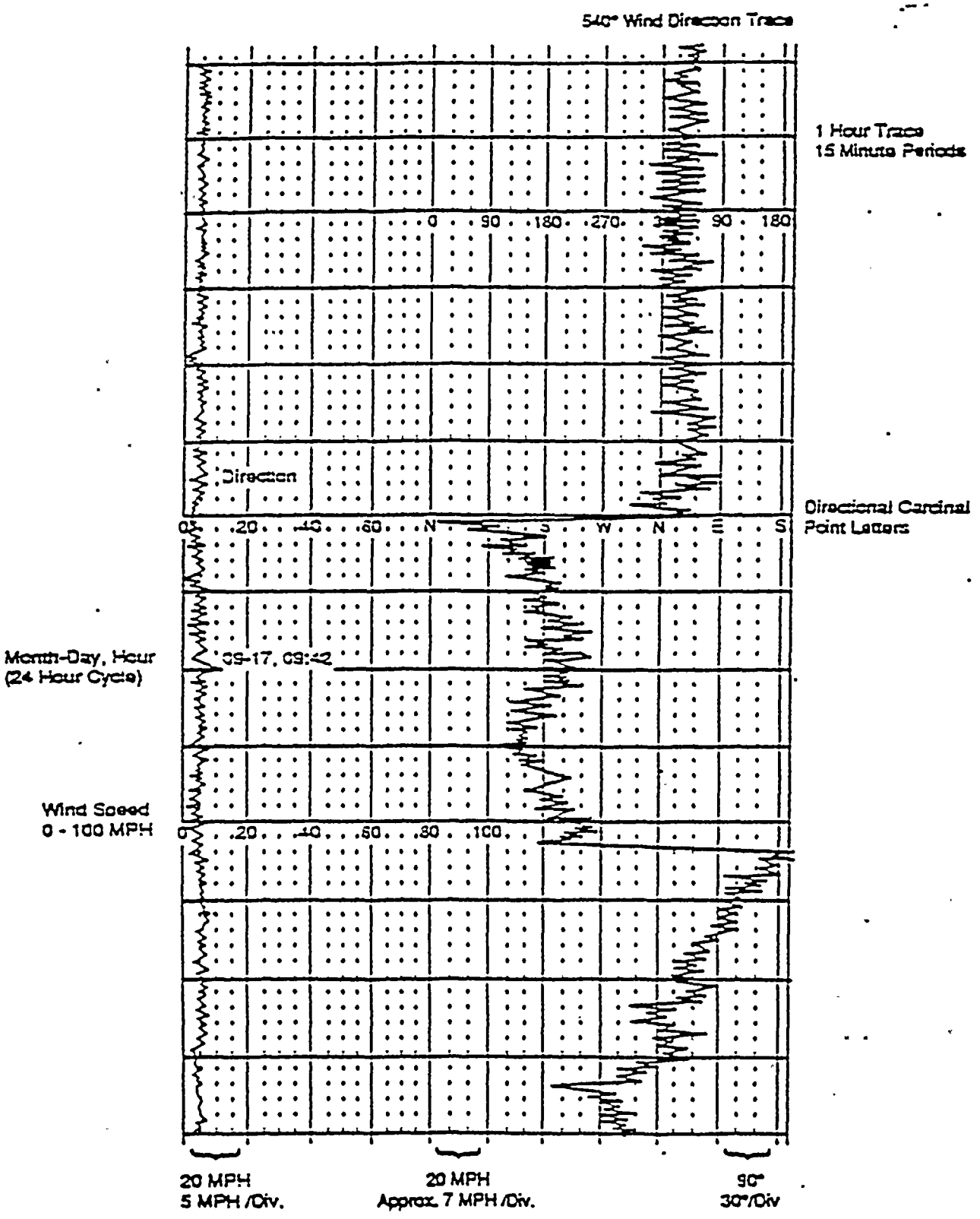


TABLE 3.6 - STABILITY CLASSIFICATION CHART

STABILITY CLASSIFICATION	NMPC TURBULENCE CLASS	PASQUILL CAT.	TEMP CHANGE WITH HEIGHT, °F/70ft[1]	σ_θ DEGREES RANGE OF VALUES[2]	TEMP CHANGE WITH HEIGHT, °F/168ft[3]
Extremely Unstable	I	A	$\Delta T/\Delta Z \leq -0.73$	$22.5 \leq \sigma\theta <$	$\Delta T/\Delta Z \leq -1.75$
Moderately Unstable	II	B	$-0.73 < \Delta T/\Delta Z \leq -0.65$	$17.5 \leq \sigma\theta < 22.5$	$-1.75 < \Delta T/\Delta Z \leq -1.57$
Slightly Unstable	II	C	$-0.65 < \Delta T/\Delta Z \leq -0.58$	$12.5 \leq \sigma\theta < 17.5$	$-1.57 < \Delta T/\Delta Z \leq -1.38$
Neutral	III	D	$-0.58 < \Delta T/\Delta Z \leq -0.19$	$7.5 \leq \sigma\theta < 12.5$	$-1.38 < \Delta T/\Delta Z \leq -0.46$
Slightly Stable	IV	E	$-0.19 < \Delta T/\Delta Z \leq 0.58$	$3.8 \leq \sigma\theta < 7.5$	$-0.46 < \Delta T/\Delta Z \leq 1.38$
Moderately Stable	IV	F	$0.58 < \Delta T/\Delta Z \leq 1.53$	$2.1 \leq \sigma\theta < 3.8$	$1.38 < \Delta T/\Delta Z \leq 3.69$
Extremely Stable	IV	G	$1.53 < \Delta T/\Delta Z$	$\sigma\theta < 2.1$	$3.69 < \Delta T/\Delta Z$

(1) Adjusted to correspond to the ΔT measured between the 30-foot and 100-foot levels.

(2) Note on symbol convention "$3.8 \leq \sigma\theta < 7.5$" means that $\sigma\theta$ is greater than or equal to 3.8 degrees but less than 7.5 degrees.

(3) Adjusted to correspond to the ΔT measured between the 30-foot and 200-foot levels.

ATMOSPHERIC STABILITY CHARACTERIZATION

A. (I) Mid-afternoon only, with clear skies or skies with very few thin clouds; late spring to early fall, winds usually are below 6 miles per hour.

B. (II) Late morning to mid-afternoon only, with clear or partly cloudy skies; mid spring to mid-fall, winds are usually below 9 miles per hour.

C. (II) Late morning to late afternoon only, with partly cloudy skies; spring through fall, winds are usually below 11 miles per hour.

D. (III) All daytime, with overcast or partly cloudy skies or early morning and late afternoon with clear or partly cloudy skies, all night time with overcast skies or partly cloudy year around, winds are moderate to high (greater than 6 miles per hour).

E. (IV) Typically night time only, with thin overcast or partly cloudy skies, all year around, winds less than 10 miles per hour.

F. (IV) Typically night time only, with clear to partly cloudy skies, all year around, winds less than 7 miles per hour.

G. (IV) Typically night time only, with clear skies or very few thin clouds all year around, winds less than 5 miles per hour.

1.0 METHOD

- Access the EDAMS Computer using Attachment 2 of this procedure.
- IF Unit 1 was selected, go to Section 2.0 of this Attachment.
- IF Unit 2 was selected, go to Section 3.0 of this Attachment.

2.0 UNIT 1 METHODS

2.1 OGESMS

a. Select monitor (7, 8, 10a or 10b)

NOTE: Monitor 7 = indicator 112-07A
Monitor 8 = indicator 112-08A
Monitor 10a = indicator RN10A
Monitor 10b = indicator RN10B

b. Enter time that reading was obtained (using 24 hour format)

c. Enter monitor reading (cpm for monitors 7 or 8, cps for monitors 10a or 10b). Use J panel readings or the following computer points:

- monitor 7, use E334
- monitor 8, use E335
- monitor 10a, use E488
- monitor 10b, use E489

d. Enter calibration factor. If unavailable, use default values below:

- 4.4E-8 for 7 or 8
- 4.4E-7 for 10a or 10b

e. Enter Stack Flow (kcfm). Use computer point C320 or calculate from Table 4.1.

f. Hit the "F9" key.

g. Print results.

2.2 RAGEMS

a. Enter the time that the reading was obtained (24 hour format).

b. Enter the monitor reading (cps). Use J panel reading or computer point C321.

c. Enter calibration factor (use posted value).

d. Enter dilution factor as follows:

= 1 if 6 liter chamber is used
= 1E3 if 30 cc chamber is used
= 2E5 if 30 cc chamber plus first stage dilution is used. Use Total Dilution Ratio (TDR) x1000 as the dilution factor, if TDR is known.
= 4E7 if 30 cc chamber plus first and second stage dilution is used. Use TDR x1000 as the dilution factor, if TDR is known.

2.2 (Cont)

e. Enter Total Stack Flow (kcfm). Use computer point C320 or calculate from Table 4.1.

f. Hit the "F9" key.

g. Print results.

2.3 Stack Teletector

a. Enter the time that the reading was obtained (24-hour format).

b. Enter the monitor reading (mrem/hr).

c. Enter the calibration factor. If unavailable, use default value of 0.5.

d. Enter Total Stack Flow (kcfm). Use computer point C320 or calculate from Table 4.1.

e. Hit the "F9" key.

f. Print the results.

2.4 Grab Sample (Noble Gas)

* *

CAUTION

In using grab samples to determine release rate, the results may be invalid if significant changes in source terms have occurred since the sample was taken.

* *

a. Enter the time that the reading was obtained (24-hour format).

b. Enter total Noble Gas concentration (μCi/cc).

c. Enter Total Stack Flow (kcfm). Use computer point C320 or calculate from Table 4.1.

d. Hit the "F9" Key.

e. Print the results.

2.5 Back Calculation

NOTE: Use back calculation of downwind survey team data to determine release rate when no other method is available, AND to verify calculated release rates.

a. Enter the time that the reading was obtained (24-hour format).

b. Enter the wind speed (mi/hr). Use the method described in Attachment 3.

c. Enter "E" for elevated/stack or "G" for ground/vent release.

2.5 (Cont)

d. Enter the stability class (A-G).

e. Enter the three foot closed window reading from the ion chamber (mrem/hr). If readings are in CPM, then convert using 3500 CPM = 1 mrem/hr.

f. Enter the downwind distance that the above reading was obtained.

g. Hit the "F9" key.

h. Print the results.

2.6 FSAR

NOTE: Input from the Control Room or TSC staff is necessary to select the FSAR accident type that most closely describes the conditions being experienced.

a. Select the accident being experienced or projected (Use Attachment 5, Table 5.1).

b. Print results.

2.7 Containment High Range Monitor

NOTE: This method is only valid if the monitor is able to "see" the release. Therefore, consult Operations personnel on the validity of monitor readings.

a. Enter the monitor ID or number.

b. Enter the time that the reading was obtained (24-hour format).

c. Enter the date that the reading was obtained.

d. Enter the time of reactor shutdown (24-hour format).

e. Enter the date that the reactor was shutdown.

f. Enter the monitor reading (rem/hr). Use computer point E467 or E468.

g. Enter the expected flow rate (kcfm) to the environment. Consult with Operations personnel if needed.

h. Hit the "F9" key.

i. Print results.

2.8 For liquid releases, consult N1-CSP-M204

3.0 UNIT 2 METHODS

3.1 GEMS

a. Enter the time that the reading was obtained (24-hour format).

b. Enter "S" if this is a stack reading or "V" if it is a vent reading.

c. Enter monitor reading (μCi/s). Use GEMS readings from SPDS display or the 882 panel. If offscale, use GEMS computer.

d. Hit the "F9" key.

e. Print results.

3.2 Grab Sample (Noble Gas)

* *

CAUTION

In using grab samples to determine release rate, the results may be invalid if significant changes in source terms have occurred since sample was taken.

* *

a. Enter the time that the reading was obtained (24-hour format)

b. Enter total Noble Gas reading (μCi/cc).

c. Enter total stack or vent flow (kcfm). Calculate from Figure 4.2 or 4.3.

d. Hit the "F9" Key.

e. Print the results.

3.3 Back Calculation

Use Section 2.5 of this Attachment.

3.4 USAR

Use Section 2.6 of this Attachment.

3.5 Containment High Range Monitor

Use Section 2.7 of this Attachment. Monitor readings are available on the DRMS system (RMS1a,b,c or d), the SPDS display or the 880 panel.

3.6 For liquid releases, consult N2-CSP-LWS-M203

TABLE 4.1
FLOW RATES CORRESPONDING TO FAN CONFIGURATIONS FOR UNIT 1

Drywell Vent, Purge, and Fill Line (10.00 KCFM)	KCFM
Turbine Building High Speed Fans (170.00 KCFM)	KCFM
Turbine Building Low Speed Fans (120.00 KCFM)	KCFM
Reactor Building High Speed Fans (70.00 KCFM)	KCFM
Reactor Building Low Speed Fans (35.00 KCFM)	KCFM
Waste Building (8.00 KCFM)	KCFM
Waste Building Extension (5.30 KCFM)	KCFM
Offgas Building (6.00 KCFM)	KCFM
Reactor Building Emergency Vent. (1.60 KCFM)	KCFM
RSSB Extension (10.25 KCFM)	KCFM
Total Stack Flow	KCFM

TABLE 4.2
FLOW RATES CORRESPONDING TO FAN CONFIGURATIONS FOR UNIT 2 STACK

CST Room 1 Fan (2200 SCFM)	Stack Substructure 1 Fan (1400 SCFM)	Turbine Building 1 Fan (40,000 SCFM)	Turbine Building 2 Fans (80,000 SCFM)	Standby Gas Treatment (4,000 SCFM)	Nominal SCFM	Nominal cm^3/sec
				X	4,000	1.89 E6
		X			40,000	1.89 E7
		X		X	44,035	2.08 E7
			X		80,000	3.78 E7
			X	X	84,000	3.96 E7
	X				1400	6.61 E5
X					2200	1.04 E6

TABLE 4.3
FLOW RATES CORRESPONDING TO FAN CONFIGURATIONS FOR UNIT 2 VENT

250' & 306' Recon Rm 1 Fan (3300 SCFM)	Radwaste Liner 1 Fan (800 SCFM)	Radwaste Tanks 1 Fan (4910 SCFM)	Radwaste Building 1 Fan (47,800 SCFM)	Radwaste Building 2 Fans (95,600 SCFM)	Aux Boiler (23,000 SCFM)	Refueling Floor Above (70,000 SCFM)	Refueling Floor Below (70,000 SCFM)	Nominal SCFM	Nominal cm^3/sec
			X					47,800	2.256 E7
				X				95,600	4.512 E7
			X		X			70,800	3.341 E7
				X	X			118,600	5.597 E7
			X			X	X	187,800	8.864 E7
				X		X	X	235,600	1.112 E8
			X		X	X	X	210,800	9.948 E7
				X	X	X	X	258,600	1.22 E8
		X						4910	2.317 E6
	X							800	3.775 E5
X								3300	1.557 E6

1.0 DOSE ASSESSMENT

1.1 General Considerations

1.1.1 The dose assessment program is called RADDOSE.

1.1.2 Meteorological data is automatically sent to RADDOSE by the Meteorological Monitoring System (MMS). The user can use this data or manually input data.

1.1.3 Source term and release rate determination is identical to that described in Attachment 4.

1.2 Dose Assessment Procedure

NOTE: The dose assessment model has many capabilities beyond those used in this procedure. Use the "EDAMS Operators Manual" (available in the EOF) for further reference.

1.2.1 Log on to EDAMS computer using Attachment 2.

1.2.2 Select "Dose Assessment Model: RADDOSE IV" from the EDAMS main menu.

1.2.3 Utilize "EDAMS Data Entry Form", Figure 5.2, or equivalent.

1.2.4 Select the affected unit.

1.2.5 Select "Begin New Incident" at the "Start-UP Menu" screen. Hit the "delete" key if prompted.

1.2.6 Enter the following at the Accident Scenario Definition screen:

a. Trip Date. This is the date that the reactor scrammed or was manually tripped. IF the reactor is not shut down, enter tomorrow's date.

b. Trip Time (24-hour format). This is the time that the reactor scrammed or was manually tripped.

c. Release Date. This is the date that the release to the atmosphere began, or is projected to begin.

d. Release Time (24-hour format). This is the time that release to atmosphere began or is projected to begin.

e. Enter the lake temperature (deg F). If unknown, hit "Enter" and historical data will be entered.

f. Enter the initials of the user (two or three initials).

g. Hit "F9" to accept all entries or "Esc" to back-up and correct.

1.2.7 Select "Enter Source Term Data" from the EDAMS main menu.

NOTES: 1. Use Attachment 4 to obtain the information needed to complete this section.

2. The preferred source of release rate data is the actual isotopic distribution, if available.

a. Select "Accident Type" by hitting the "F2" key, and choosing the accident that most suits the current conditions. Use Table 5.1 in making the choice.

b. Select "Y" for elevated releases OR "N" for ground releases when asked, "Is this release Elevated?".

NOTE: "Elevated" releases are releases from the stack. "Ground" releases are from any other release point.

c. Select the "Method" used to determine the release rate by hitting the "F2" key and selecting. Enter the "Flowrate" and "Monitor Reading" if required.

d. Select the Iodine release rate "Method" by hitting the "F2" key. Enter the "Monitor Reading" and "Release Rate" if required.

e. Up to three Accident Types (and therefore three release paths) can be entered. To enter additional release paths, repeat Steps a - d above. When all applicable accident types have been entered, proceed to the next step.

f. Upon completion of this screen, hit the "F9" key to accept or "Esc" to back-up.

1.2.8 The user will be queried only for the meteorological data required. Enter meteorological data as required:

a. When queried for "Enter/Edit Meteorological Data", hit "Enter".

b. If the MMS is available, the data will be automatically displayed for the current time step. Hit "F9" to accept, or

- Hit "F4" to update the screen
- Hit "Ins" to insert data

c. If the MMS is unavailable, enter met data obtained from alternate sources, as outlined in Attachment 3 of this procedure.

1.2.9 Select "Perform Calculations" from the EDAMS main menu.

* *

CAUTION

Any calculations performed on actual data shall be verified. The ODAM may act as the checker for calculations performed by the Rad Assessment Staff.

* *

a. The map of the 10 mile Emergency Planning Zone (EPZ) will appear with centerline dose rates when the calculation is complete.

b. Hit any key to go to the output menu.

c. Select "Continue Calculations" from the output menu.

d. Select "Perform Forecast" from the RADDOSE main menu.

e. Verify meteorology and source term data as required.

f. Enter "Forecast Period" (i.e. - release duration). Use 4 hours as a default value.

g. Hit the "F9" key.

h. After the forecast map appears hit any key to go to the output menu.

i. Select "Go to Report Menu".

j. Select "Print Complete 10-Mile ERPA Map".

k. Select "Print Complete Dose/Dose Rate Report".

ℓ. Attach results of Step 1.2.9.j and k to EDAMS Data Entry Form, Attachment 5.2 or equivalent.

m. Verify that any results are supported by radiological and plant conditions. Consider:

- Core damage
- Drywell high range monitor readings
- Effluent monitor readings
- Inplant radiological conditions
- Containment hydrogen monitor readings

n. Document the verification of the calculation using the signature lines on Figure 5.2 or equivalent.

2.0 REFINED PROTECTIVE ACTIONS

2.1 These actions are initiated for the purpose of verifying the adequacy of PARs made using Attachment 1 of this procedure OR to develop PARs using projected doses obtained from Attachment 5, Step 1.2.9 of this procedure.

2.2 In determining PARs based on dose assessment, carefully consider factors such as release duration and Evacuation Travel Time Estimates (ETTE). (For example, puff releases may yield doses in excess of Protective Action Guidelines for an evacuation, but the plume will pass before an evacuation could be completed). ETTEs are available in the EOF.

NOTE: County and State PARs take many factors into account that NMP procedures do not (i.e. - road conditions, special population needs, evacuation scenarios, and shelter vs evacuation doses). Therefore, differences in PARs may occur. The ODAM must account for differences in PARs, when those differences exist. This can be accomplished via consultation with County and State representatives in the EOF as to the assumptions used in their dose calculations and PAR development.

2.3 Obtain dose projection for each ERPA.

2.3.1 PARs are listed on the 10 mile ERPA map obtained per Attachment 5, Step 1.2.9. j.

2.3.2 The following criteria are used in determining the PAR for each ERPA.

PAR	TEDE (rem)	CDE_T (rem)
Evacuate	> 1	> 5

2.3.3 Record the PAR for each ERPA on the Part 1 Notification Form and give to the CED for approval.

2.3.4 PARs that have been made previously must be accounted for when PARs are revised. For example, if a PAR to evacuate an ERPA was previously made to the State/County and that PAR does not appear on a revised map from 1.2.9.j, that PAR must still be included on the revised recommendation to the State/County.

2.3.5 If projected doses exceed values listed in Attachment 5 Step 2.3.2 for distances greater than 10 miles, PARs shall be made using convenient geographic boundaries (such as townships).

TABLE 5.1 - FSAR/USAR ACCIDENT TYPE

Accident Type	Noble Gas Release Rate (Ci/s)	Iodine Release Rate (Ci/s)	Analyzed Release Point
Unit 1:			
DBA Loss of Coolant	5.50E+0	4.53E-3	Elevated
Control Rod Drop	2.51E+1	6.03E-5	Elevated
Refueling Accident	3.78E-2	3.84E-5	Elevated
Steam Line Break	6.36E+0	4.86E+1	Ground
Loss of Coolant (Realistic)	1.79E-3	1.00E-6	Elevated
Unit 2:			
DBA Loss of Coolant	1.03E+1	2.03E-1	Elevated
Control Rod Drop	4.22E-2	4.70E-4	Ground
Refueling Accident	1.77E+1	1.65E-1	Ground
Steam Line Break	3.64E+0	1.22E+2	Ground
Rad Gas Waste System Leak	4.06E+0	0.00	Ground
Instrument Line Failure	0.00	2.17E-2	Ground
Fuel Cask Drop	2.06E+0	2.68E-3	Ground
Loss of Coolant (Realistic)	1.05E-2	2.38E-5	Elevated

NMP ARA HAWK — CHRONOLOGICAL RELEASE RATE LOG

Date:	Release Form:	Survey Location:	Completed By:

Effluent Monitor Data				Environmental Sampling Data								Release Log			
									***	****			Assigned Time Interval		
Time of Monitor Reading	Monitor System	Release Rate (Ci/sec)	Duration of Release	Survey Time	Location	Gamma Dose Rate (mR/hr)	Distance (Mi)	Wind Speed (mph)	Transit Time (min)	Est. Time of Release from Site	Release Rate (Ci/sec)	Assigned Release Rate (Ci/sec)	Start	Stop	ODAM Review

Notes: *** Transit Time (min) = (Distance/Wind Speed) x 60 min/hr **** Est. Time of Release = Survey Time - Transit Time

☐ "What If"
☐ Actual Data (Checker Required!)

Rx Trip: Date: _____ Time: _____
☐ Unit 1 ☐ Unit 2

Release:
Release Duration (Hr): _____

Accident Type	Release Point *(Circle One)*
Containment DBA	Elev/Grd
Control Rod Drop	Elev/Grd
Refueling Accident	Elev/Grd
Steam Line Break	Elev/Grd
Loss of Coolant	Elev/Grd
Rad Gas Waste System	Elev/Grd
Inst. Line Failure	Elev/Grd
Fuel Cask Drop	Elev/Grd
Severe Accident	Elev/Grd

Flow Rate _____

Method _____

Monitor Reading _____

Iodine Method _____

Iodine Monitor _____

Met Data: ☐ Automatic ☐ Manual *(Below)* Lake Temp ___°F or Default

	Elevated	Ground
Wind Speed (mi/hr)		
Wind Direction (from - degrees)		
Stability (A-G)		
Temperature (°F)		
Precipitation (in/15 min)		

Attach:
- Map from color printer
- "Complete Dose/Dose Rate" report

Misc: _____

Calculations Performed By: _____

Calculations Verified By: _____

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EPIP-EPP-12

REVISION 04

RE-ENTRY PROCEDURE

TECHNICAL SPECIFICATION REQUIRED

Approved by:
R. B. Abbott — Plant Manager - Unit 1 — Date: 1/19/98

Approved by:
K. A. Dahlberg — Plant Manager - Unit 2 — Date: 1/16/98

Effective Date: 01/30/98

PERIODIC REVIEW DUE DATE JANUARY 1999

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1.0 PURPOSE

To evaluate hazards to personnel approaching NMPNS from Off Site, and outline the method used to re-enter potential radioactively contaminated areas caused by a radiation emergency at Nine Mile Point Nuclear Station (NMPNS).

2.0 RESPONSIBILITIES

2.1 Site Emergency Director (SED)

Provides technical and administrative direction to the Radiological Assessment Manager (RAM).

2.2 Radiological Assessment Manager (RAM)

2.2.1 Manages the radiological monitoring and assessment features of a re-entry operation.

2.2.2 Provides technical and administrative direction to the Environmental Survey/Sample Team Coordinator and staff during re-entry operations.

2.3 Environmental Survey/Sample Team Coordinator

Provides technical and administrative direction to re-entry survey teams.

2.4 Re-entry Survey Teams

Perform comprehensive re-entry radiation surveys of NMPNS and assessment of radiological problem areas.

3.0 PROCEDURE

NOTES:
1. Radiological Survey equipment and supplies are available at the EOF.
2. Re-entry teams shall conduct surveys in pairs, as a minimum.
3. Exposure limits shall be in accordance with EPIP-EPP-15.

3.1 Site Re-entry

3.1.1 Before leaving, the re-entry survey team should ensure they:

a. Obtain a briefing from the Environmental Survey/Sample Team Coordinator or designee on the following as a minimum:

3.1.1.a (Cont)

1. Required monitoring locations.
2. Anticipated radiological conditions both on and off site.
3. Suggested routes.
4. Exposure limits.
5. Radiological conditions warranting mission cancellation or reevaluation. (i.e. back-off dose rates)
6. Review of any available survey data.

b. Obtain necessary survey and sampling equipment.

c. Don protective clothing and dosimetry if appropriate.

d. Verify communications equipment is operational.

3.1.2 Perform the surveys expeditiously for the purpose of:

a. Facilitating the relocation of emergency operations to the Technical Support Center (TSC) or Emergency Operations Facility (EOF), if necessary.

b. Assessing radiological problems possibly encountered by subsequent emergency teams (i.e., damage control, search and rescue, etc.).

3.2 Site Boundary Survey

3.2.1 Perform surveys at the site boundary, at assigned survey areas, and as appropriate for conditions encountered. (i.e. moving surveys traversing the access road may be prudent)

NOTE: Sample analysis may be performed at the Station Laboratory at the New York Power Authority Fitzpatrick Station, or Environmental Laboratory at the Volney EOF, as directed by the Environmental Survey/Sample Team Coordinator.

3.2.2 Record results on Inplant/Downwind/Re-entry Survey Data Sheet (Attachment 1) and transmit the data to the Environmental Survey/Sample Team Coordinator.

3.2.3 Survey Evaluation

a. As survey results are received from the re-entry survey teams, the Environmental Survey/Sample Team Coordinator or designee shall calculate dose rates and airborne concentrations using the methodology and figures described in EPIP-EPP-07, Downwind Radiological Monitoring.

b. The RAM evaluates the results and makes appropriate recommendations to the Site Emergency Director.

3.3 Site Survey

3.3.1 If radiation levels are less than predetermined back-off levels, obtain additional surveys at the following locations:

a. NLC

b. Security West (Unit 1)

c. Security East (Unit 2)

d. New York Power Authority driveway

3.3.2 If radiation levels are encountered greater than pre-determined back-off levels, contact the ESSTC or designee for guidance before proceeding.

3.4 Station Re-entry Survey

3.4.1 The re-entry survey team should:

a. Enter via the Unit 1 Admin Building initially if possible.

b. Inform the Control Room of arrival and readiness to survey the following Emergency Response Facilities:

1. Unit 1 Admin Building, El. 277'

2. Technical Support Center (TSC)

3. Operations Support Center (OSC) areas and Admin Building, El. 261'

4. Unit 1 Chem Lab (Unit 1 Turbine Bldg., El. 261')

c. Perform radiological evaluations, record results on Inplant/Downwind/Re-entry Survey Data Sheet (Attachment 1), and transmit to the Environmental Survey/Sample Team Coordinator.

3.4.2 The Environmental Survey/Sample Team Coordinator shall evaluate survey results using methodology described in EPIP-EPP-07, Downwind Radiological Monitoring and EPIP-EPP-08, Off-Site Dose Assessment and Protective Action Recommendation.

3.4.3 The RAM shall provide appropriate recommendations to the SED concerning movement of emergency personnel back to the on-site Emergency Response Facilities.

3.5 Unaffected Unit Re-entry Survey

When an evaluation of areas at the unit experiencing the emergency is completed, the RAM should provide direction to the Re-entry Survey Team(s) to evaluate radiological conditions at the unaffected unit.

4.0 DEFINITIONS

None

5.0 REFERENCES AND COMMITMENTS

5.1 Technical Specifications

None

5.2 Standards, Regulations, and Codes

10CFR20, Standards for Protection Against Radiation

5.3 Policies, Programs, and Procedures

5.3.1 EPIP-EPP-06, Inplant Emergency Surveys

5.3.2 EPIP-EPP-07, Downwind Radiological Monitoring

5.3.3 EPIP-EPP-08, Off-Site Dose Assessment and Protective Action Recommendation

5.3.4 EPIP-EPP-15, Health Physics Procedure

5.3.5 S-RPIP-3.3, Contamination Surveys

5.3.6 S-RPIP-3.4, Airborne Radioactivity Surveys

5.4 Commitments

None

6.0 RECORDS REVIEW AND DISPOSITION

6.1 The following records generated by this procedure that are the result of an actual emergency shall be maintained by Nuclear Records Management for the Permanent Plant File in accordance with NIP-RMG-01:

Attachment 1: INPLANT/DOWNWIND/RE-ENTRY SURVEY DATA SHEET

6.2 The following records generated by this procedure that are not the result of an actual emergency are not required for retention in the Permanent Plant File.

Attachment 1: INPLANT/DOWNWIND/RE-ENTRY SURVEY DATA SHEET

ATTACHMENT 1: DOWNWIND/RE-ENTRY SURVEY DATA SHEET

☐ Downwind Survey ☐ A ☐ B ☐ C
☐ Re-entry Survey

Survey Meter Model # _____ SR # _____
Count Rate Meter Model # _____ SR # _____
Air Sampler Model # _____ SR # _____ High Range Survey Meter Model # _____ SR # _____

Directions for Survey Teams: report readings in shaded blocks from left to right		General Area Radiation Data					Air Sample Data									Survey Team Exposure Data		
Survey Date/Time	Survey Location	O.W. Reading (mrem/hr or cpm)		C.W. Reading (mrem/hr)		Beta Corr. Factor	Sample ID #	• Start Time	• Stop Time	Duration (min)	Flow Rate (Cfm)	Bkgd (Cpm)	Sample Count Rate (cpm)		•• Surveyor's Initials	Team Members Initials	Exposure Received (mrem)	Cumulative Exposure (mrem)
		Contact	1m	Contact	1m								Part	Iodine				

	Plume Tracking Survey Data						Moving Survey Data		
Time	Near Edge		Centerline		Far Edge		Time	Location (Street Names, Building, Etc.)	Radiation Levels (mrem/hr o.w. or cpm)
	Odometer Reading	Radiation Levels mrem/hr o.w. or cpm	Odometer Reading	Radiation Levels mrem/hr o.w. or cpm	Odometer Reading	Radiation Levels mrem/hr o.w.or cpm			

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EPIP-EPP-14

REVISION 01

EMERGENCY ACCESS CONTROL

TECHNICAL SPECIFICATION REQUIRED

Approved By:
N. L. Rademacher

Plant Manager - Unit 1

Date 11/22/96

Approved By:
J. T. Conway

Plant Manager - Unit 2

Date 11/20/96

THIS PROCEDURE PARTIALLY SUPERSEDES S-EPP-14

PERIODIC REVIEW, 07/17/97, NO CHANGE

Effective Date: 12/20/96

PERIODIC REVIEW DUE DATE JULY 1998

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1.0 PURPOSE

1.1 To provide guidance to personnel assigned to the Emergency Response Organization and Personnel with Oswego County Emergency Identification Cards; on accessing the site and protected area during emergencies.

1.2 To provide guidance to personnel assigned emergency duties when accessing various secured areas or equipment.

2.0 REFERENCES AND COMMITMENTS

2.1 Technical Specifications

None

2.2 Standards, Regulations, and Codes

ANSI/ANS-3.3-1982, Security for Nuclear Power Plants

2.3 Policies, Programs, and Procedures

2.3.1 OI-13, Termination of Access to the Protected Area

2.3.2 EPMP-EPP-02, Emergency Equipment Inventories and Checklists

2.3.3 EPMP-EPP-01, Maintenance of Emergency Preparedness

2.3.4 S-SAP-11.0, Emergency Plan Duties

2.3.5 S-SAP-11.1, Emergency Access Control Point Duties

2.3.6 S-SAP-11.2, Emergency Duties EOF Security Officer

2.3.7 NDD-EPP, Emergency Preparedness

2.4 Commitments

Sequence Number	NCTS Number	Description
1	3197-14	Change the method for issuing Oswego County Emergency Identification cards during an emergency.

3.0 DEFINITIONS

3.1 10 Mile Emergency Planning Zone (EPZ)

A designated area approximately 10 miles in radius around NMPNS used to facilitate off-site emergency planning. Access to the 10 Mile EPZ may be controlled during a radiological emergency at NMPNS by police and military control points.

3.2 Access Control Points

Checkpoints for incoming traffic to be stopped and identification verified. These points are established by Niagara Mohawk Power Corporation (NMPC) Nuclear Security at the Alert, or higher emergency classification, or as directed by the Site and Corporate Emergency Director. The Access Control Points are predesignated at two locations:

3.2.1 The intersection of County Route 29 and Private Road

3.2.2 The intersection of County Route 1A and Private Road

3.3 Oswego County Emergency Identification Cards

ID cards issued to individuals assigned emergency duties which allow admittance beyond the Access Control Points, and into the 10 Mile EPZ.

4.0 RESPONSIBILITIES

4.1 Corporate Emergency Director/Recovery Manager

4.1.1 Maintains overall responsibility for the actual operation and control of emergency response activities.

4.1.2 Authorizes access to Niagara Mohawk Power Corporation (NMPC) facilities in response to an emergency event.

4.2 Nuclear Security Director

Provides overall direction for security and traffic control at affected NMPC facilities.

4.3 Nuclear Security Coordinator

4.3.1 Ensures plant security is maintained and institutes appropriate measures (such as initiation and maintenance of roadblocks) in accordance with the Security and Safeguards Contingency Plan, or as directed by the Site Emergency Director.

4.3.2 Provides access and traffic control check points at the Emergency Operations Facility (EOF).

4.3.3 Authorizes the issuance of Oswego County Emergency Identification Cards.

4.4 Emergency Preparedness Training Lead Instructor

4.4.1 Maintains a system for authorization, control, use, and collection of Oswego County Emergency Identification Cards.

4.4.2 Issuance of temporary ID cards at the EOF, located on County Route 176.

4.5 Director Emergency Preparedness

Authorizes the issuance of Oswego County Emergency Identification Cards.

4.6 Supervisor - Technical Training

Authorizes the issuance of Oswego County Emergency Identification Cards.

4.7 Joint News Center (JNC) Director

Determines whether or not individuals are permitted access to the Joint News Center (JNC)

4.8 Emergency Response Personnel

4.8.1 Upon assignment of emergency response duties, obtain an Oswego County Emergency Identification Card after appropriate training is completed.

4.8.2 Display Oswego County Emergency Identification Card for Site access during an emergency.

4.8.3 Shall maintain Oswego County Emergency Identification Card readily available at all times when offsite (except as allowed in Section 7.2).

5.0 PRECAUTIONS

None

6.0 LIMITATIONS AND ACTIONS

6.1 Personnel issued Oswego County Emergency Identification Cards shall not use the card for any other purpose (for example, non-site, non-nuclear related emergency access).

6.2 Permanent Oswego County Emergency Identification Cards are issued routinely to individuals reporting to emergency positions.

6.3 Temporary Oswego County Emergency Identification Cards are obtained by reporting to the EOF.

6.4 Other authorized governmental control cards are supplied to personnel by respective agencies.

7.0 PREREQUISITES

When an evacuation is declared:

7.1 Access to the following areas is limited:

7.1.1 The Oswego County Emergency Operations Center

7.1.2 The 10 Mile Emergency Planning Zone

7.1.3 The Joint News Center

7.1.4 Nine Mile Point Nuclear Station (NMPNS)

7.1.5 NMPNS Protected Area

7.1.6 The Emergency Response Facilities

7.2 An individual requiring access shall provide one of the following to Nuclear Security personnel, law enforcement, or military officials:

7.2.1 An Oswego County Emergency Identification card; OR

7.2.2 Another authorized government control identification card (for example, a New York State Police ID Card, or Federal Emergency Management Agency (FEMA) ID Card). Refer to Authorized Access Control Identification Cards (Figure 1).

8.0 PROCEDURE

8.1 Oswego County Emergency Identification Cards

8.1.1 Authorization, control, and use of Oswego County Emergency Identification Cards

a. During an emergency at the Nine Mile Point Nuclear Station (NMPNS) or James A. Fitzpatrick (JAF) Nuclear Station, an Oswego County Emergency Identification Card allows access:

1. Through military and/or police control points throughout the Oswego County 10 Mile Emergency Planning Zone (EPZ)

2. Into the Joint News Center (JNC) or NMPNS

3. Into the Protected Area

4. Into emergency response facilities

b. Individuals requiring an Oswego County Emergency Identification Card include:

1. Qualified personnel staffing emergency positions

2. NMPC Nuclear Security personnel

3. Other personnel, as determined by the Director Emergency Preparedness

8.1.2 Issuance of Permanent ID Cards

a. The following steps are to be completed before issuance of an Oswego County Emergency Identification Card:

1. The individual requesting an ID card should complete Part 1 of the Authorization Form for Issuance of the Oswego County Emergency Identification Card (Figure 3), or equivalent.

2. Upon completion of Part 1, the individual should:

a) If training is required:

1) Forward the form directly to the Nuclear Training Center.

2) Upon completion of emergency response training, ensure the Training Supervisor, or designee, signs Part II and forwards the form to the Director Emergency Preparedness.

8.1.2.a.2 (Cont)

b) If training is not required, forward the form directly to the Director Emergency Preparedness.

c) Obtain photographs and an identification number at the location specified by the Director Emergency Preparedness.

d) Return the form to the Emergency Preparedness Department for review and disposition.

b. Replacement of the Oswego County Emergency Identification Card due to loss or damage is made by:

1. Issuing a new identification card number

c. The Oswego County Emergency Identification Card may be collected by Emergency Preparedness in the following cases:

1. Upon termination of the employee from NMPC

2. When a need no longer exists for the individual to possess the ID card

8.1.3 (NCTS 1) Issuance of temporary ID cards

a. The site contact should acquire the following information from an individual requiring a temporary Oswego County Emergency Identification Card:

1. Name of individual

2. Agency

3. Social Security number

4. Location of planned access

5. Purpose for access

8.1.3 (Cont)
(NCTS 1)

b. The site contact should forward the information obtained in Step 8.1.3.a to one of the following for authorization:

1. Corporate Emergency Director/Recovery Manager

2. Nuclear Security Director

3. Nuclear Security Coordinator

4. Director Emergency Preparedness

5. Emergency Preparedness Department staff

NOTE: During an emergency, this list may be expanded as required in consultation with Oswego County officials.

c. One of the authorized individuals in Step 8.1.3.b should:

1. Contact personnel at the EOF, by calling 593-5735.

2. Provide the required information.

d. The individual requiring the Oswego County Emergency Identification Card should report to:

The EOF located on County Route 176 at:

New York Power Authority/Niagara Mohawk
Emergency Operations Facility
656A Airport Road (R.R.#2)
Fulton, N.Y. 13069

e. Upon arrival at the EOF, personnel will request the following information from each individual requiring a temporary Oswego County Emergency Identification Card:

1. Name of individual

2. Agency

3. Social Security number

4. Location of planned access

8.1.3 (Cont)
(NCTS 1)

f. If the information provided corresponds with previously authorized information, personnel will issue the temporary Oswego County Emergency Identification Card and provide the ingress route to follow, if necessary.

8.2 10 Mile Emergency Planning Zone Access

8.2.1 During a declared emergency, an area within an approximate 10 mile radius from the station may be secured by roadblocks manned by law enforcement or military officials.

8.2.2 Individuals requiring access into the 10 Mile EPZ shall, upon arriving at a roadblock, provide law enforcement officials with the appropriate identification described in Section 7.2 of this procedure.

8.2.3 Individuals without the appropriate identification may be permitted access after obtaining a temporary identification card per Section 8.1.3.

8.2.4 When permitted access, follow instructions provided by law enforcement officials (such as avoiding certain roads, etc.)

8.3 Joint News Center Access

8.3.1 Before entry is permitted, individuals requiring access to the JNC shall display the appropriate identification described in Section 7.2 of this procedure or provide acceptable proof of media/press affiliation.

8.3.2 Individuals without the appropriate identification may be permitted access after obtaining a temporary identification card.

8.3.3 The following individuals may authorize the issuance of a temporary ID to access the JNC:

a. Emergency Director of Public Information (EDPI), or designee; OR

b. JNC Director

8.3.4 When permitted access, following instructions provided by Nuclear Security personnel (such as avoiding specific areas within the building).

8.4 NMPNS Site Access

8.4.1 Upon arrival at site roadblocks, personnel requiring access to the site during an emergency shall provide Security personnel with the appropriate identification described in Section 7.2 of this procedure.

8.4.2 If an individual with emergency response functions does not possess appropriate identification, security personnel at the roadblock shall refer the matter to the EOF Security Director for proper resolution.

8.4.3 When permitted access, personnel shall follow instructions provided by Security personnel (such as specific routes to follow, etc.).

8.5 Protected Area Access

8.5.1 Nuclear Security personnel will notify incoming personnel of the status of the emergency by posting an Emergency Status Board (Figure 2) within the Unit 1 and Unit 2 Security Building entrances.

8.5.2 During an emergency, individuals seeking access to the Protected Area should:

a. Proceed to a Nuclear Security Building.

b. Provide the appropriate identification as described in Section 7.2 of this procedure to obtain protected area ACAD/ID Card.

c. Follow normal security access procedures.

NOTE: Any visitors present during the implementation of this procedure (for example, a telephone repair person) may be authorized to remain in the emergency facility.

8.5.3 During an Alert or higher emergency classification, only personnel possessing authorized emergency identification should access the Protected Area.

8.6 Emergency Operations Facility (EOF) Access

Personnel requiring access to the Emergency Operations Facility (EOF) should:

8.6.1 Enter the primary access door at the EOF.

8.6.2 Frisk upon entering, using the portal monitor, if required.

8.6.3 Proceed to the registration desk.

8.6.4 NMPC Personnel - display an Oswego County Authorized Access Control ID Card.

8.6.5 Display an Oswego County Authorized Access Control ID Card or another authorized government control ID card.

8.6.6 Individuals without an appropriate ID - provide sufficient cause or permission by one of the following individuals:

a. Nuclear Security Director or Coordinator

b. Corporate Emergency Director/Recovery Manager

c. Director Emergency Preparedness, or designee

8.7 Equipment Access

8.7.1 Personnel requiring the use of emergency equipment should:

a. Obtain emergency equipment (for example, radiological, rescue, operations supplies, vehicles, etc.) at various facilities and locations on site and off site.

b. Maintain appropriate keys to emergency facilities, equipment, and locations by following the guidance regarding control and inventory of keys outlined in Section 8.7.2 of this procedure.

8.7.2 Emergency keys used for access shall be maintained and distributed by the Manager Emergency Preparedness, or designee. Changes in personnel should be promptly reported to emergency response personnel so keys may be re-assigned.

a. A set of emergency keys are:

1. Maintained in the Nine Mile Point Control Rooms under control of the Station Shift Supervisors (SSS).

2. Made available to responding emergency personnel requiring access to emergency facilities or equipment.

b. Selected personnel assigned from Nine Mile Point Nuclear Station (NMPNS) staff shall be provided a set of emergency keys for ease of access during an emergency situation. A complete list is contained in EPMP-EPP-02, Emergency Equipment Inventories and Checklists.

8.7.2 (Cont)

c. Several emergency kits contain keys, inventoried quarterly, as part of emergency equipment inventories.

d. Emergency vehicle keys are maintained in the Operations Support Center (OSC) key locker cabinet.

e. Inventories and checklists

1. A quarterly inventory is performed by the Manager Emergency Preparedness, or designee, to ensure availability of emergency keys.

2. A list of emergency keys requiring maintenance is contained in EPMP-EPP-02, Emergency Equipment Inventories and Checklists.

9.0 ACCEPTANCE CRITERIA

None

10.0 RECORD REVIEW AND DISPOSITION

The following records generated by this procedure as the result of an actual emergency declared at Nine Mile Point, shall be maintained by Nuclear Records Management for the Permanent Plant File in accordance with NIP-RMG-01:

Figure 3, "Authorization Form for Issuance of the Oswego County Emergency Identification Card"

The following records generated by this procedure as the result of emergency drills and exercises are not required for retention in the Permanent Plant File:

Figure 2, "Emergency Status Board"

Figure 3, "Authorization Form for Issuance of the Oswego County Emergency Identification Card"

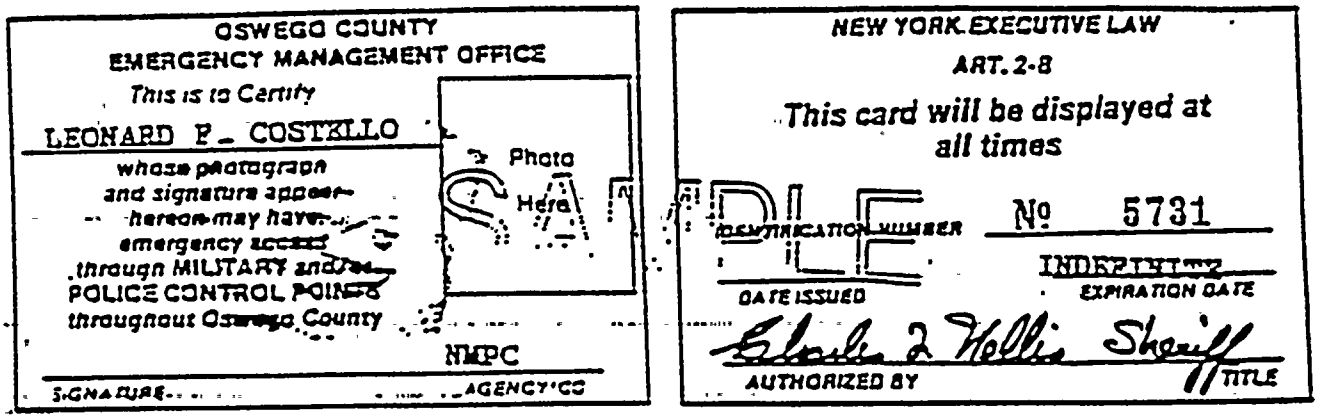
ATTACHMENTS

Figure 1: Authorized Access Control Identification Cards

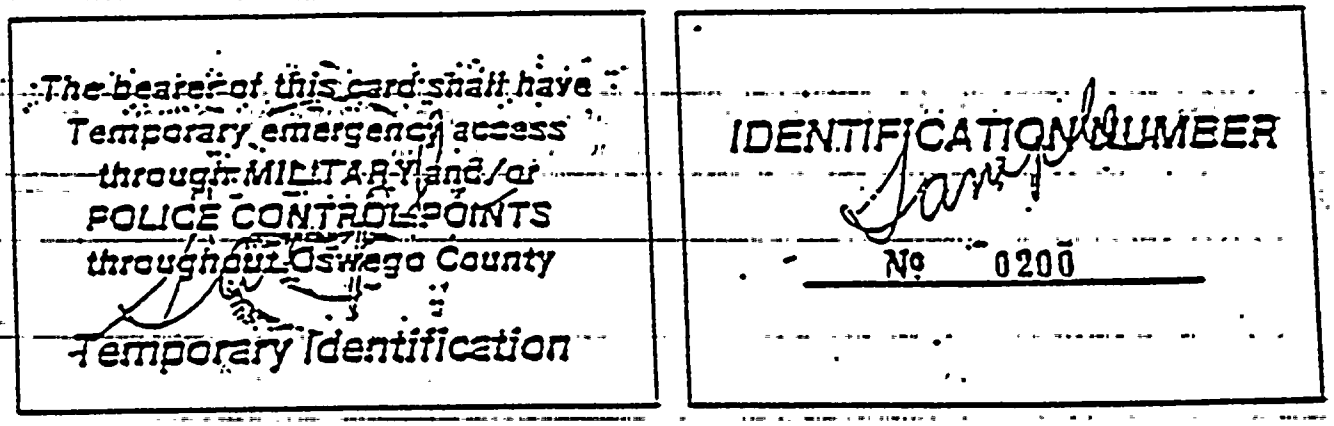
Figure 2: Emergency Status Board

Figure 3: Authorization Form for Issuance of the Oswego County Emergency Identification Card

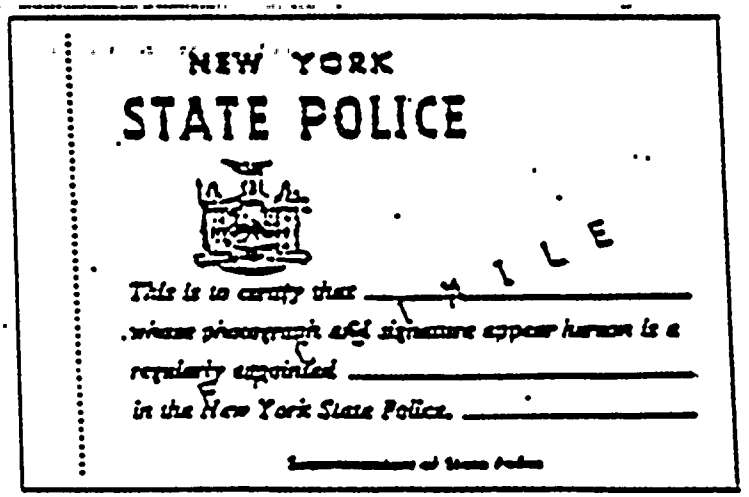
FIGURE 1
AUTHORIZED ACCESS CONTROL IDENTIFICATION CARDS



Black on Light Green

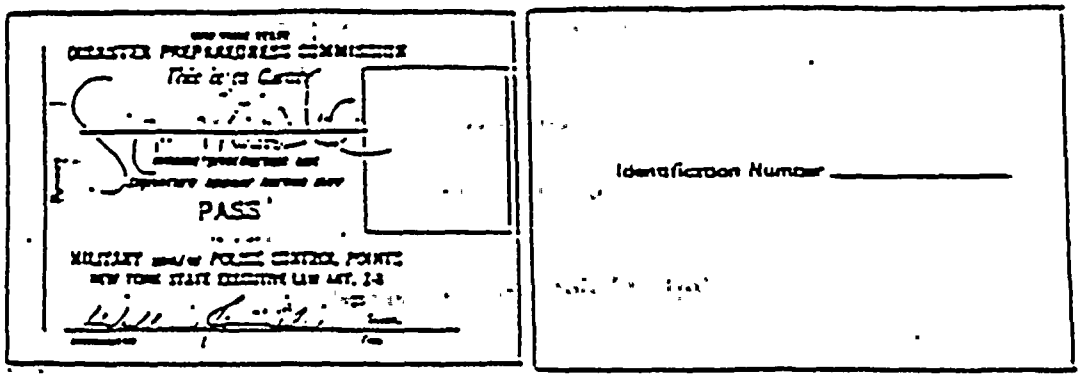


Color will be announced as identified for individual exercise or event

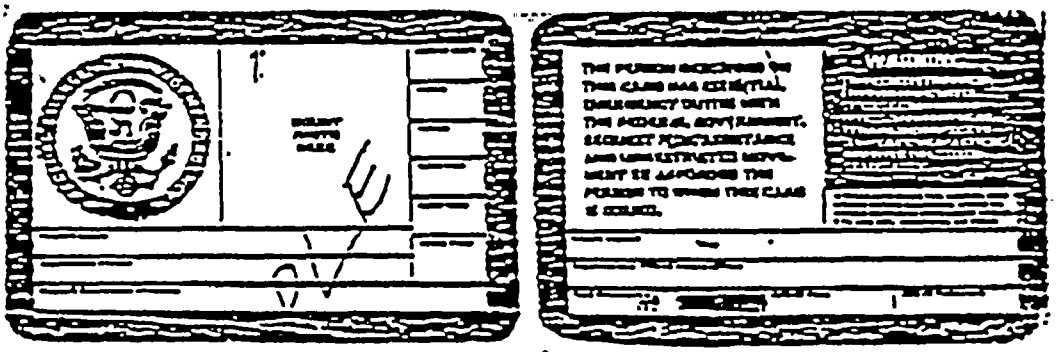


Black on White - Purple Insignia

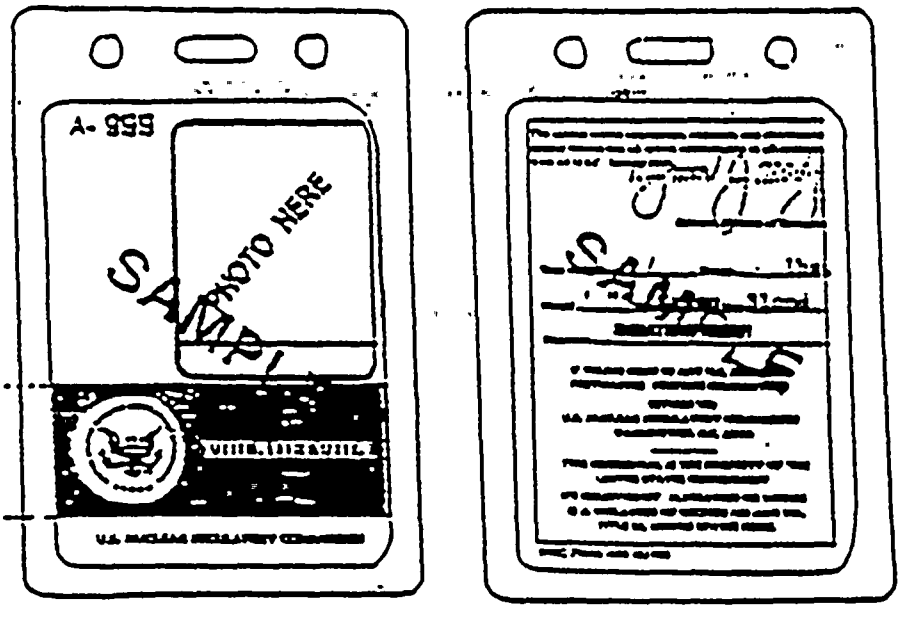
FIGURE 1
AUTHORIZED ACCESS CONTROL IDENTIFICATION CARDS



Black on Peach



Black on White - Red Letter



White Background with Various Colored Bands

FIGURE 2
EMERGENCY STATUS BOARD

EMERGENCY STATUS BOARD

THIS ☐ IS ☐ IS NOT A DRILL.

NINE MILE NUCLEAR STATION UNIT ☐ #1 ☐ #2

IS EXPERIENCING A(N) ☐ UNUSUAL EVENT
☐ ALERT
☐ SITE AREA EMERGENCY
☐ GENERAL EMERGENCY
☐ _____

ALL EMERGENCY WORKERS

HAVE YOUR EMERGENCY IDENTIFICATION READY.

☐ REPORT TO YOUR NORMAL WORK LOCATION.
☐ REPORT TO YOUR EVACUATION ASSEMBLY AREA OR ASSIGNED EMERGENCY RESPONSE FACILITY.
☐ _____

FIGURE 3

NIAGARA MOHAWK

AUTHORIZATION FORM FOR ISSUANCE OF THE OSWEGO COUNTY EMERGENCY IDENTIFICATION CARD

Section 1

Authorization is for: ☐ New Card ☐ Replacement Card, Reason:	Emergency Role
Name (Last, First, MI)	Social Security No. ___-___-___
Department	Work Phone No.
Work Address	Home Phone No.

Section 2

The above designated individual has completed all pertinent Emergency Plan Training, and I request that an Identification Card be issued for his/her use.	
Training Supervisor or Designee	Date

Section 3

The above individual is authorized to receive an Identification Card.	
Director EP/Designee	Date

This form is to be returned to NMPNS Emergency Preparedness Training

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EPIP-EPP-23

REVISION 07

EMERGENCY PERSONNEL ACTION PROCEDURES

TECHNICAL SPECIFICATION REQUIRED

Approved By:
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12/22/97
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12/22/97
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NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EPIP-EPP-23

REVISION 07

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1.0 PURPOSE

The attachments to this procedure list tasks that should be completed by emergency personnel at the Emergency Response Facilities depending on the nature and severity of the emergency situation.

2.0 PRIMARY RESPONSIBILITIES

Each individual assigned an emergency response position is responsible for implementing the guidance found in the respective Attachment of this procedure.

3.0 PROCEDURE

Each individual for which attachments are provided should use the appropriate attachment for that emergency position to perform the unique actions.

4.0 DEFINITIONS

None

5.0 REFERENCES AND COMMITMENTS

5.1 Licensee Documentation

None

5.2 Standards, Regulations, Codes

None

5.3 References

5.3.1 EPIP-EPP-03, Search and Rescue

5.3.2 EPIP-EPP-04, Personnel Injury or Illness

5.3.3 EPIP-EPP-05, Station Evacuation

5.3.4 EPIP-EPP-06, In-Plant Emergency Surveys

5.3.5 EPIP-EPP-07, Downwind Radiological Monitoring

5.3.6 EPIP-EPP-08, Off-Site Dose Assessment and Protective Action Recommendations

5.3.7 EPIP-EPP-13, Emergency Response Facilities Activation and Operation

5.3.8 EPIP-EPP-15, Health Physics Procedure

5.3.9 EPIP-EPP-16, Environmental Monitoring

5.3.10 EPIP-EPP-17, Emergency Communications Procedures

5.3.11 EPIP-EPP-18, Activation and Direction of the Emergency Plan

5.3.12 EPIP-EPP-19, Site Evacuation Procedure

5.3.13 EPIP-EPP-20, Emergency Notifications

5.3.14 EPIP-EPP-22, Damage Control

5.4 Commitments

Section/Step Number	Commitment Number	Description
1	NCTS 003093-14	OSC Coordinator should assure exterior doors are closed.
2	NCTS 003093-04	Personnel Accountability Coordinator should keep OSC Coordinator informed.
3	NCTS 003093-04	OSC Coordinator should keep Maintenance Coordinator informed of accountability activities.
4	NCTS 003170-14	Technical Data Coordinator should review status boards for accuracy.
5	NCTS 003152-02	Assure that the HPN Hotline is continuously manned by a technically qualified member of the Radiological or Dose Assessment Group. Decide whether the HPN Hotline is to be manned from the TSC or the EOF.
6	NCTS 503911-00	Change emergency procedures to accommodate increased Control Room dose during a LOCA due to increased MSIV Leakage.

6.0 RECORD REVIEW AND DISPOSITION

The following records generated by this procedure as a result of actual declared emergency at the Nine Mile Point Nuclear Station shall be maintained by Nuclear Records Management for the Permanent Plant File in accordance with NIP-RMG-01, "Records Management".

- Any records, logs or notes

The following records generated by this procedure as a result of EP Drills/Exercises are not required for retention in the Permanent Plant File.

Any records, logs or notes

ATTACHMENT 1
ERF GENERAL ACTIONS

1.0 RESPONSIBILITIES

All Emergency Response Personnel responding to an emergency are responsible for implementing the applicable actions of this attachment when reporting to an Emergency Response Facility.

2.0 ACTIONS

2.1 Observe and adhere to frisking requirements as required.

2.2 If responding within five hours of alcohol consumption (NIP-FFD-01, 3.7), inform the Security Director and cooperate with Security for Fitness for Duty determination.

2.3 Upon arrival at the ERF, or upon hearing the announcement for accountability, card in at the accountability card reader. (Card in one time only for accountability).

2.4 Adhere to posted requirements for eating/drinking restrictions.

2.5 Assist in the activation of the facility if needed.

2.6 Perform respective duties per the Emergency Plan Implementing Procedures.

2.7 Sign in on the ERF staffing board.

2.8 Give/Receive complete turnover of emergency situation before being relieved or assuming ERO duties.

2.9 Maintain a log of activities performed for the emergency.

2.10 As necessary, update personnel within your area of responsibility on changing plant conditions.

2.11 Ensure personnel actively assigned to you are accounted for at all times.

2.12 As necessary, determine need for additional equipment, supplies and/or personnel.

2.13 Ensure travel restrictions due to safety or radiological conditions are provided to responding personnel.

2.14 Inform Security Director if responding personnel do not have required identification to gain access to NMPNS.

2.15 Upon termination of the emergency or at shift change:

a. Sign out at registration log or card out at accountability card reader.

b. Turn in dosimetry.

2.16 Retain for inclusion in the Permanent Plant File all records generated as a result of an actual declared emergency.

ATTACHMENT 2
SITE EMERGENCY DIRECTOR

1.0 RESPONSIBILITIES

The Site Emergency Director responsibilities are listed in EPIP-EPP-18.

2.0 ACTIONS

2.1 The SED shall implement actions (as required) of Attachment 1, ERF General Actions.

2.1 The SED shall implement all actions required of the Site Emergency Director as contained in EPIP-EPP-18 "Activation and Direction of the Emergency Plan".

2.2 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

1.0 RESPONSIBILITIES

The **Technical Data Coordinator** is responsible for making the TSC operational and directing and coordinating Technical Department personnel in the analysis of emergency conditions and the development of plans and procedures in support of station operations personnel.

2.0 ACTIONS

2.1 Activate the TSC as necessary per EPIP-EPP-13.

2.2 Refer to Attachment 1, ERF General Actions.

2.3 Verify that sufficient numbers of secondary responders are available and are reporting to the emergency facility by reviewing the fax from Community Alert Network (CAN) located at the CAN designated fax.

2.4 Coordinate with the Technical Liaison and Advisory Manager in the EOF and enter information onto the INPO Nuclear Network System.

2.5 Determine need for and request additional equipment, supplies and manpower.

2.6 Obtain briefing from Site Emergency Director on plant status, corrective actions in progress, and identified or anticipated needs from the technical group.

2.7 Verify sufficient personnel are present to assist in the following duties:
- Reactor Analyst Coordination
- ENS Communications (Emergency Notification System)
- Support Staff
- TSC/EOF/CR Liaison
- Control Room Information Liaison

2.8 Assign individuals to act as aides to the Site Emergency Director and to act as data loggers for status boards (Plant Status and Emergency Events).

2.9 Brief staff on plant status, corrective action in progress, and identified or anticipated technical needs.

2.10 Assign a member of your staff to staff the Tech Info Line, as the TSC-EOF/CR Liaison.

2.11 Assign a plant qualified member of your staff to man the NRC ENS Hotline and perform duties per EPIP-EPP-20 Section 3.4.2 if necessary.

2.12 Verify the NRC Event Notification Worksheet is completed as required per EPIP-EPP-20, Section 3.4.3.

2.13 Brief the TSC/EOF/CR Liaison periodically on TSC activities (e.g., engineering assessment, planned on-going activities, PARs).

(C4) 2.14 Ensure all relevant data received is posted on the appropriate status board.

2.15 Assess plant conditions against the EALs and recommend emergency classifications to the SED.

2.16 Direct and coordinate the efforts of the assigned technical staff in analyzing problems and developing solutions, guidance, and emergency operating procedures for operations personnel.

2.17 Provide the interface between the Site Emergency Director on technical problems, analyses and resolutions.

2.18 Periodically brief the Site Emergency Director on actions/assessments/status/results.

2.19 Continuously analyze plant conditions and recommend re-prioritization of emergency response activities as necessary.

2.20 Assist the SED in developing termination and/or recovery criteria per EPIP-EPP-25.

2.21 Develop long term staffing plans for Technical Support as appropriate.

2.22 Recover technical data developed during the emergency for later use.

2.23 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 4
REACTOR ANALYST COORDINATOR

1.0 RESPONSIBILITIES

The **Reactor Analyst Coordinator** is responsible for analyzing and resolving reactor physics related problems, assisting in the development of emergency operating procedures for conducting emergency operations and performing core damage estimates per EPIP-EPP-09.

2.0 ACTIONS

2.1 Refer to Attachment 1, ERF General Actions.

2.2 At the direction of the Site Emergency Director or the Technical Data Coordinator, and in consultation with the Shift Technical Advisor (STA), analyze problems, determine alternate solutions, and design and coordinate the installation of short term modifications.

2.3 Operate Control Room cameras as necessary for determining plant status.

2.4 Monitor trends in plant parameters for early detection of core damage.

2.5 Perform core damage estimates and calculations per EPIP-EPP-09, and provide to Technical Data Coordinator.

2.6 As necessary, consult fuel vendor on issues regarding failed fuel.

2.7 Develop long term action plan for core monitoring and continued assessment (as necessary).

2.8 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 5
MAINTENANCE COORDINATOR

1.0 RESPONSIBILITIES

The **Maintenance Coordinator** is responsible for the management of all maintenance efforts to provide technical and administrative direction to Damage Control Teams through the OSC Damage Control Team Coordinator and/or the Operations Support Center Coordinator.

2.0 ACTIONS

2.1 Activate the TSC as necessary per EPIP-EPP-13.

2.2 Refer to Attachment 1, ERF General Actions.

2.3 Ensure coordination with the Damage Control Team Coordinator.

2.4 Upon activation of the Operations Support Center ensure that the following positions are staffed:
- OSC Coordinator
- OSC Communicator
- Damage Control Team Coordinator

2.5 Establish communications with the OSC Coordinator and keep Site Emergency Director informed relative to OSC activities such as:

- Activation status
- Manpower status
- Habitability status of OSC areas
- Damage Control Activities

2.6 Determine the need for damage inspection and repair activities in accordance with EPIP-EPP-22.

2.7 Assist in the installation of special structures, systems, and components as required or in the coordination of contamination control activities as the need arises.

2.8 If a "Site Evacuation" is ordered, coordinate the use of maintenance personnel for the decontamination of evacuating vehicles with the Radiological Assessment Manager.

2.9 Keep Site Emergency Director and Technical Data Coordinator apprised of information received from Damage Control Teams.

2.10 Develop long term staffing plan for maintenance support as appropriate.

2.11 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

1.0 RESPONSIBILITIES

The Radiological Assessment Manager is responsible for managing the on-site dose assessment aspects of an emergency to determine radiological consequences and hazards to station personnel.

2.0 ACTIONS

* *

CAUTION

IF notified that a LOCA has occurred, THEN go to Step 2.7.

* *

2.1 Activate the TSC as necessary in accordance with EPIP-EPP-13.

2.2 Refer to Attachment 1, ERF General Actions.

2.3 Verify that sufficient numbers of secondary responders are available and are reporting to the emergency facility by reviewing the fax from Community Alert Network (CAN) located at the CAN designated fax.

2.4 Request that the TSC/EOF/Control Room Liaison ask the Control Room if a LOCA has occurred. IF a LOCA has occurred, THEN go to
(C6) Step 2.8.

2.5 Ensure that the HPN Hotline is continuously staffed in accordance with EPIP-EPP-20, if necessary.

2.6 Ensure exposure control is in accordance with EPIP-EPP-15.

2.7 Obtain briefing from Site Emergency Director on plant status, corrective actions in progress, identified or anticipated survey/sample needs, and dose assessment requirements.

* *

CAUTION

Step 2.8 pertains ONLY to Unit 2 in the event of a LOCA.

* *

2.8 Perform the following:

2.8.1 Evaluate the air intake pathway (either the East or West side of the Control Building) to the Unit 2 Control Room to determine the least contaminated air intake to the Control Room Special Filter Train. The higher potentially contaminated pathway should be isolated. Evaluation should include consideration of:

2.8.1 (Cont)

- release point(s)
- wind direction

2.8.2 Make recommendation to the SED on appropriate control room actions based upon this evaluation.

2.8.3 IF unable to determine the higher potentially contaminated pathway, THEN recommend isolation of the East intake.

2.8.4 Advise the OSC Radiation Protection Team Coordinator to direct Control Room personnel AND those reporting to the Control Room to don protective clothing and eyewear for the purpose of reducing beta dose. (C6)

2.9 Verify personnel are present to fill the following positions:

- Radiation Protection Team Coordinator
- Off-Site Dose Assessment Manager
- Rad Support Staff (as needed)
- HPN Communicator (C5)

2.10 Request additional personnel as needed from the OSC (preferably Chemistry and Radiation Protection Department personnel) to assist in performing the following activities:

- Radiological control activities
- On-site dose projections
- Communications (radio and dedicated lines)
- Habitability surveys of emergency response facilities
- Source Term Assessment
- Post Accident Chemistry Samples

2.11 Designate an individual to coordinate the issuance of dosimetry to non-site personnel if and when appropriate.

2.12 Brief RP Team Coordinator and ODAM on plant status, corrective action in progress, and identified or anticipated survey/sample needs. Discuss survey/sample strategy and develop plans.

2.13 Contact on-call Chemistry Supervisor if additional chemistry support is required.

2.14 Before dispatch of emergency teams ensure that appropriate measures are implemented to adequately monitor and control personnel exposures. (Refer to EPIP-EPP-15)

2.15 Ensure on-site protective actions (shelter or site evacuation) are being evaluated and implemented.

2.16 If it is determined that safety or radiological hazards exist offsite or onsite:
- a. Consult with ODAM regarding best possible ingress and egress routes.
- b. Determine the need for a site evacuation using EPIP-EPP-15.
- c. Coordinate with the SED the implementation of onsite protective actions.

2.17 If site evacuation is to be implemented, determine best route to leave site.

2.18 Assign priorities using Table 6.1 as a guide.

2.19 If radiological conditions warrant, ensure a general announcement is made prohibiting smoking, eating and drinking when deemed appropriate.

2.20 Ensure TSC habitability surveys are performed using EPIP-EPP-13.

2.21 If radiological conditions warrant, ensure step off pads and monitors are set up at the entrances to TSC.

2.22 To ensure TSC habitability for 30 days following a Loss of Coolant Accident (LOCA), Direct an air sample to be taken for I-131 concentration following TSC emergency ventilation system initiation. If the LOCA occurs at Unit 2 you may compare the I-131 results with EPIP-EPP-13, Determination of TSC Habitability following a Design Basis Accident (DBA).

2.23 Perform on-site dose assessment activities outlined in EPIP-EPP-15.

2.24 Consult with ODAM, if necessary, on results of assessment activities.

2.25 Consult with the Environmental Survey/Sample Team Coordinator (ESSTC), as necessary, on on-site and off-site environmental monitoring results.

2.26 Ensure on-site dose rates and protective actions are posted.

2.27 Assist Environmental Survey/Sample Team Coordinator in selecting proper monitoring locations and assessing radiological conditions expected in the field.

2.28 Assist Rad Support Staff in selecting proper monitoring and sample collection points, data required, and the assessment of radiological conditions at those points.

2.29 Consult with Chemistry Supervisor to assess the release rate and required sampling.

2.30 Maintain interface with the Rad Support Staff in the following matters:

- Required survey/sample activities
- Disposition of results (including disposition of various samples)
- Requests for outside assistance, (such as JAF, Ginna, INPO, FRMAP) are to be made through the SED interfacing with these groups.

2.31 Implement use of RWPs for on-site activities through the Rad Support Staff and additional staff in TSC (i.e., repair and damage control, assessment activities, operations, etc.).

2.32 Provide technical and administrative direction to the ESSTC during re-entry operations in accordance with EPIP-EPP-12.

2.33 Assist the SED in developing termination and/or recovery criteria per EPIP-EPP-25.

2.34 Develop a long term staffing plan for Radiological Protection support as appropriate. Utilize JAF personnel as appropriate.

2.35 Collect Radiological Protection data developed during the emergency for later review and analysis.

2.36 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

TABLE 6.1 RADIOLOGICAL ASSESSMENT MANAGER ACTIVITY PRIORITIES [1]

Priority	Task	Procedure to Implement
1	Search and Rescue and First Aid: Lifesaving Only	EPIP-EPP-03, EPIP-EPP-04, EPIP-EPP-15
2	Initial On-site protective actions	EPIP-EPP-15
3	In-Plant Surveys	EPIP-EPP-06
4	Provide Personnel to Accompany Damage Control Team	EPIP-EPP-06, EPIP-EPP-22
5	Provide Personnel to Monitor at Accountability Areas for Radiation/ Contamination	EPIP-EPP-05
6	Emergency First Aid and Decontamination: not Lifesaving	EPIP-EPP-04, EPIP-EPP-15
7	Provide Personnel to Accompany Follow-Up Re-entry Teams	EPIP-EPP-22
8	Personnel Exposure Control (Routine Dosimetry Issuance and Completion of Special Radiation Work Permits)	EPIP-EPP-15, EPIP-EPP-22
9	Follow-Up In-Plant/On-Site Monitoring and Sample Collection	EPIP-EPP-06, EPIP-EPP-07
10	Sample Analysis	EPIP-EPP-15
11	Minor First Aid and Decontamination	EPIP-EPP-04, EPIP-EPP-15
12	Personnel Re-entry to Site	EPIP-EPP-12

[1] This list of activity priorities is sequenced in a "likely order" for a fast breaking radiological emergency when personnel resources may be limited. Personnel assignments should be made as needed by the specific plant and personnel requirements.

1.0 RESPONSIBILITIES

The Rad Support Staff is responsible for providing technical and administrative direction to In-Plant monitoring and sampling/survey teams, and post accident sampling team(s).

2.0 ACTIONS

2.1 Activate the TSC as necessary in accordance with EPIP-EPP-13.

2.2 Refer to Attachment 1, ERF General Actions.

2.3 Determine need for and request additional equipment, supplies and staff.

2.4 Ensure exposure control is in accordance with EPIP-EPP-15.

2.5 Obtain briefing from Radiological Assessment Manager on plant status and corrective actions in progress.

2.6 Assess plant status and communicate these conditions to appropriate personnel.

2.7 Establish communications with the Radiation Protection Team Coordinator in the OSC.

2.8 Request the Rad Protection Team Coordinator assign personnel to perform In-Plant monitoring as directed by the Radiological Assessment Manager. Priorities for assignment will depend on plant conditions; the following order of tasks is provided as a guide:

- Support of source term calculations needed for initial dose projection when radiation monitors are inoperable
- In-Plant surveys
- Accompany initial Damage Control Teams (EPIP-EPP-06, 22)
- Accompany subsequent Damage Control Teams (EPIP-EPP-06, 22)
- In-Plant sample collection (EPIP-EPP-06, 15)
- Sample analysis (EPIP-EPP-15)
- Other missions as required

2.9 Provide radiological control for the facility in accordance with standing radiological procedures.

2.10 Provide Rad Protection Team Coordinator with appropriate precautions on expected or potential hazards, protective clothing requirements, and exposure control (in accordance with EPIP-EPP-06 and EPIP-EPP-15).

2.11 Keep Radiological Assessment Manager apprised of all data received.

2.12 Ensure a radiation protection technician is dispatched with any emergency team to provide radiation protection coverage. Arrange for this through the Radiation Protection Team Coordinator in the OSC.

2.13 In the event of a station evacuation, request Rad Protection Team Coordinator dispatch a survey team to monitor Assembly Areas (see EPIP-EPP-05, Station Evacuation).

2.14 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 8
DOSE ASSESSMENT ADVISOR

1.0 RESPONSIBILITIES

The Dose Assessment Advisor is responsible for providing on a regular basis:

- Meteorological data
- Determining effluent release rate
- Off-site radiological assessment
- Protective Action Recommendations for SED approval.

2.0 ACTIONS

2.1 Report to the control room when notified of an emergency.

2.2 Notify the on call Chemistry Supervisor if additional assistance is required.

2.3 Implement dose assessment activities in accordance with EPIP-EPP-08.

2.4 Provide meteorological information as requested by the SSS/SED.

2.5 Perform Dose Assessment activities and PARs per EPIP-EPP-08 until relieved by the ODAM.

2.6 Assist the SSS/SED in the control room as directed.

2.7 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

1.0 RESPONSIBILITIES

The Security Liaison is responsible for maintaining:

- Communications link between Site disciplines
- Security Tactical Operations Center (STOC)
- Updating the SED and staff on current, on-going security events
- Communicating command directives from the SED to the Security Coordinator in the STOC (when staffed).

2.0 ACTIONS

2.1 Activate the TSC as necessary in accordance with EPIP-EPP-13.

2.2 Refer to Attachment 1, ERF General Actions.

2.3 Determine need for and request additional equipment, supplies and personnel.

2.4 Obtain briefing by Site Emergency Director or his designee on emergency status and any security needs.

2.5 Contact the Security Coordinator in the Security Tactical Operations Center (STOC) located in the Security Building to determine status of station security and update the SED of the status of applicable security and contingency procedures.

2.6 Ensure that requests for assistance are provided to the Personnel Accountability Coordinator in accounting for station personnel in accordance with EPIP-EPP-05, "Station Evacuation", EPIP-EPP-19, "Site Evacuation", and security procedures, if appropriate.

2.7 Ensure that requests for access and traffic control for Off-Site Niagara Mohawk Power Corporation (NMPC) ERF locations are communicated to the Security Director.

2.8 Consult with the Radiological Assessment Manager on protective measures that should be taken by security department personnel, as appropriate.

2.9 Communicate with the Security Director the need to provide personnel to allow NRC personnel access to the Learning Center roof or the Loomis Corners radio tower so that they may install portable radio equipment as needed.

2.10 Maintain liaison with the Security Director.

2.11 Ensure that the NMPC helicopter is secured upon request.

2.12 Communicate, in a timely manner, all SED directions for the use of security personnel on site to the Security Coordinator.

2.13 Coordinate the assignment of security personnel to Damage Control Teams as directed/requested.

2.14 Assist the SED in developing termination and/or recovery criteria as needed.

2.15 Develop long term staffing plan for security in conjunction with the Security Coordinator, as needed.

2.16 Collect all paperwork developed during the emergency for later review and analysis.

2.17 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 10
TSC/EOF/CR LIAISON

1.0 RESPONSIBILITIES

The TSC/EOF/CR Liaison is responsible for maintaining liaison with the Control Room Information Liaison Technical Assistant located in the EOF Technical Assessment Room and providing the technical interface between the EOF, TSC and the Control Rooms.

2.0 ACTIONS

2.1 Refer to Attachment 1, ERF General Actions.

2.2 Determine and request additional support as needed from the Technical Data Coordinator.

2.3 Obtain the names of individuals filling the emergency positions in the Control Room and provide this information to the Technical Data Coordinator for posting.

2.4 Receive briefing from the Site Emergency Director or his designee on plant status and corrective actions in progress.

2.5 Obtain information from the Control Room Information Liaison and keep the technical briefers in the EOF Technical Assessment Room informed of on-site developments.

2.6 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 11
TSC/NED COORDINATOR

1.0 RESPONSIBILITIES

The **TSC/NED Coordinator** is responsible for coordinating Nuclear Engineering Department support and Licensing.

2.0 ACTIONS

2.1 Refer to Attachment 1, ERF General Actions.

2.2 Determine need for and obtain additional equipment, supplies and personnel.

2.3 Obtain a briefing from the Site Emergency Director on plant status, corrective actions in progress, and identified or anticipated problem areas.

2.4 Establish and maintain contact with the Technical Liaison and Advisory Manager in EOF, and brief on current situation and corrective actions in progress.

2.5 Analyze mechanical, electrical, structural, instrumentation and control and radiological problems; determine alternate solutions; design and assist in the coordination of short-term modifications.

2.6 Analyze thermohydraulic and thermodynamic problems and develop problem resolutions.

2.7 Assist in the development of Emergency Operating Procedures, Operating Procedures, etc. as necessary for conducting emergency operations.

2.8 Analyze conditions and develop guidance for the Site Emergency Director and operations personnel for protection of the reactor core.

2.9 Develop long term staffing plan for engineering support as needed.

2.10 Collect paperwork developed during the emergency for later review and analysis.

2.11 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 12
OPERATIONS SUPPORT CENTER COORDINATOR

1.0 RESPONSIBILITIES

The Operations Support Center Coordinator is responsible for making the OSC operational, coordinating and supervising the overall emergency response operations of the OSC.

2.0 ACTIONS

2.1 Activate the OSC in accordance with EPIP-EPP-13.

2.2 Refer to Attachment 1, ERF General Actions.

2.3 Ensure proper use of communications equipment in accordance with EPIP-EPP-17.

2.4 Establish communications with Technical Support Center (TSC) (normal hours) or Control Room (off-hours) and request information on plant status and corrective actions in progress.

2.5 If a radioactive release has occurred, or is in progress, ensure a general announcement is made prohibiting smoking, eating, and drinking until habitability surveys have been completed and found to be satisfactory.

2.6 Direct Radiation Protection to survey the facility and provide radiological control in accordance with standing radiological procedures. Notify Site Emergency Director immediately of results.

2.7 Place sign on door to the Unit 1 Administration Building Lobby directing all personnel to enter via the employee entrance.

(C1) 2.8 Ensure all exterior doors to the Unit 1 Administration Building are closed during a radiological emergency.

2.9 When sufficient numbers of personnel are available to support emergency functions, notify the Maintenance Coordinator the OSC is operational.

2.10 Keep Site Emergency Director informed of all available information concerning repairs, staff, surveys, etc.

2.11 Provide appropriate announcements in OSC to keep personnel informed.

(C3) 2.12 Obtain information from the Personnel Accountability Coordinator on the status of the efforts to find missing people and provide this information to the Maintenance Coordinator in the TSC. If necessary, implement EPIP-EPP-03.

2.13 In conjunction with the Maintenance Coordinator, develop long term staffing plans for maintenance support.

2.14 Collect all paperwork developed during the emergency for later review and analysis.

2.15 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 13
OPERATIONS SUPPORT CENTER COMMUNICATOR

1.0 RESPONSIBILITY

The OSC Communicator is responsible for maintaining communications with the Control Rooms, Technical Support Center (TSC) and Personnel Accountability areas.

2.0 ACTIONS

2.1 Refer to Attachment 1, ERF General Actions.

2.2 Ensure proper use of communications equipment in accordance with EPIP-EPP-17.

2.3 Establish and maintain communications with the TSC (normal hours) or Control Room (off-hours), as appropriate.

2.4 Install additional phones as necessary and test. Test backup radio.

2.5 Frequently request Emergency Status updates from TSC and provide information to OSC Coordinator for disbursement to OSC staff.

2.6 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 14
PERSONNEL ACCOUNTABILITY COORDINATOR

1.0 RESPONSIBILITIES

The Personnel Accountability Coordinator is responsible for the accounting of all site personnel, visitors and contractors.

2.0 ACTIONS

2.1 Refer to Attachment 1, ERF General Actions.

2.2 Inform the OSC Coordinator that the Personnel Accountability Coordinator position is staffed and ready to perform accountability when requested.

2.3 Establish communications with personnel accountability assembly areas (as required) and carry out actions required in accordance with EPIP-EPP-05 and EPIP-EPP-19.

2.4 Establish contact with Security Liaison located in TSC to coordinate the computerized accountability process.

(C2) 2.5 Keep the Security Liaison in TSC and the OSC Coordinator informed of accountability activities, including the status of finding missing people.

2.6 Coordinate with the OSC Coordinator and implement search and recuse actions of EPIP-EPP-03 as necessary.

2.7 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 15
RADIATION PROTECTION TEAM COORDINATOR

1.0 RESPONSIBILITIES

The **Radiation Protection Team Coordinator** is responsible for providing technical and administrative direction to survey/sample teams and determining OSC habitability.

2.0 ACTIONS

2.1 Activate the OSC in accordance with EPIP-EPP-13 as necessary.

2.2 Refer to Attachment 1, ERF General Actions.

2.3 Verify that sufficient numbers of secondary responders are available and are reporting to the emergency facility by reviewing the fax from Community Alert Network (CAN) located at the CAN designated fax.

2.4 Provide radiological control for facilities in accordance with standing radiological procedures.

2.5 Ensure exposure control is in accordance with EPIP-EPP-15.

2.6 Contact Radiological Assessment Manager or the Rad Support Staff in the Technical Support Center (TSC) and receive briefing and instructions.

2.7 Assign radiation protection technicians to the following tasks as appropriate and log the assignments:

- Downwind Survey Team A
- Downwind Survey Team B
- Downwind Survey Team C
- In-Plant Survey Teams 1-6
- Repair/Damage Control Team 1
- Repair/Damage Control Team 2
- Fire/Rescue/Medical Brigade 1

2.8 Direct survey teams to prepare for dispatch and inform when ready. Advise OSC Coordinator when teams have been dispatched and their destination.

2.9 Report OSC radiation survey and air sample results to the OSC Coordinator.

(COMM 1) 2.10 If radiological conditions warrant, set up step-off pads and monitors by the employee and lobby entrances to the Unit 1 Administration Building and the Unit 1 entrance to the bridge connecting Unit 1 and 2.

2.11 Inform the OSC Coordinator when these areas are established.

NOTE: Step 2.12 is only for Unit 2.

2.12 In the event that a LOCA has occurred, or as directed by the RAM, Control Room personnel and others who may report to the Control Room shall be directed to don protective clothing and eyewear for (C6) the purpose of reducing beta dose.

2.13 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 16
DAMAGE CONTROL TEAM COORDINATOR

1.0 RESPONSIBILITIES

The **Damage Control Team Coordinator** is responsible for providing technical and administrative direction to Damage Control Teams, providing an assessment of any damaged equipment and necessary personnel or equipment needs to effect emergency repairs, keeping OSC personnel appraised of Damage Control and Repair activities, and assuring that Damage Repair Team leaders maintain accountability of their team members at all times.

2.0 ACTIONS

2.1 Activate the OSC in accordance with EPIP-EPP-13 as needed.

2.2 Refer to Attachment 1, ERF General Actions.

2.3 Verify that sufficient numbers of secondary responders are available and are reporting to the emergency facility by reviewing the fax from Community Alert Network (CAN) located at the CAN designated fax.

2.4 Ensure proper use of communications equipment in accordance with EPIP-EPP-17.

2.5 Contact Maintenance Coordinator in TSC for briefing and any instructions.

2.6 In consultation with Maintenance Coordinator, determine any preparations necessary for damage control teams in accordance with EPIP-EPP-22 and advise the Damage Control Teams as appropriate.

2.7 Assign Maintenance personnel to standby as teams for any necessary repair/damage control activities.

2.8 Advise Maintenance Coordinator and OSC Coordinator of team assignments.

2.9 If it is determined that On-Site security is needed for assistance with access control or personnel protection, request assistance through the Security Liaison in the TSC.

2.10 Obtain system engineering support for specific damage teams, as needed.

2.11 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 17
STOC SECURITY COORDINATOR

1.0 RESPONSIBILITIES

The **STOC Security Coordinator** is responsible for maintaining plant security and instituting appropriate measures per the Site Security Plan or as directed by SED in assisting the Personnel Accountability Coordinator in search and rescue activities to account for missing personnel.

2.0 ACTIONS

2.1 On a continuing basis, inform and update Security Liaison in TSC, and the Security Director in EOF of current security events.

2.2 Ensure that all personnel actively assigned to you are accounted for at all times.

2.3 Maintain a log of Security related activities.

2.4 Determine need for and request additional equipment, supplies and personnel

2.5 Assist the Personnel Accountability Coordinator in search and rescue efforts.

2.6 Develop long term staffing plans for security as needed

2.7 Collect paperwork developed during the emergency for later review and analysis.

2.8 Provide access and traffic control check points at EOF and AEOF and coordinating on-Site security emergency activities.

2.9 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 18: CORPORATE EMERGENCY DIRECTOR/RECOVERY MANAGER

1.0 RESPONSIBILITY

The Corporate Emergency Director/Recovery Manager is responsible for managing all aspects of the NMPC response to an emergency at NMPNS.

2.0 ACTIONS

2.1 Refer to Attachment 1, ERF General Actions.

2.2 Call for information from the following as appropriate:
- Technical Support Center
- Unit 1 Control Room
- Unit 2 Control Room

2.3 Notify the Chief Nuclear Officer, President, and Chairman of the Board (Chief Executive Officer) of the situation at the NMPNS and actions to be taken. (See Emergency Events Phone List)

2.4 Establish and maintain communications with the Site Emergency Director in the TSC, and obtain plant status updates.

2.5 Ensure communications with State and Oswego County are transferred to the EOF in accordance with EPIP-EPP-20.

2.6 Verify with EOF Administrator that a NMP Technical Representative has been assigned to report to the State and County EOCs.

2.7 Verify that a NMP Technical Representative has been assigned to report to the State and County EOC's.

2.8 Brief EOF staff on initial accident conditions. Attachment 18, Figure 1, "Ingredients for a Good Update" may be utilized for this.

2.9 Direct EOF managers to evaluate resource needs.

2.10 When sufficient numbers of personnel are available in the EOF to support emergency functions, assume overall direction, control and authority of Niagara Mohawk's emergency response activities.

2.11 Transfer responsibility from the Site Emergency Director to the CED/RM.

2.12 Direct the SED in the TSC to make the announcement to TSC emergency personnel.

2.13 Make announcement in the EOF (see below for an example of the EOF announcement).

EOF ANNOUNCEMENT

Transfer of Emergency Direction and Control From the TSC to the EOF

"Attention. This is/is not a drill. This is (name), Corporate Emergency Director. As of _____ hrs, I have relieved the Site Emergency Director, (name)_____ of overall direction and control of the emergency." (Provide brief status of the emergency situation) "This is/is not a drill."

2.14 Advise State and County Emergency Operations Centers of this formal transfer.

2.15 Review and approve NMPC Protective Action Recommendations (PARs).

NOTE: The CED/RM shall not delegate the approval of notifications or protective actions to off-site agencies.

2.16 Interface with the J. A. FitzPatrick Nuclear Power Plant Liaison to obtain support as necessary.

2.17 Provide periodic briefings to the EOF staff regarding emergency status and progress. Attachment 18, Figure 1, "Ingredients for a Good Update" may be utilized for this.

2.18 Meet with Federal, State and County officials to discuss plant status, the prognosis of the emergency, and protective action recommendations, if appropriate. Utilize Attachment 18, Figure 2, "CED Guidelines for NRC and Offsite Agency Interface".

2.19 Review and approve all press releases.

2.20 Periodically brief NMPC corporate officer(s)

2.21 Assist the Site Emergency Director in continued assessment of emergency conditions and in determining and directing actions per the Site Emergency Plan and Procedures.

2.22 Interface as needed directly or through the Technical Liaison and Advisory Manager, with representatives of the Legal, Claims and Risk Management Departments.

2.23 Establish communications with INPO and/or other vendor organizations as conditions warrant and request their assistance, if deemed necessary.

2.24 Coordinate SORC/SRAB review as appropriate, of any emergency actions, procedures, modifications, etc.

2.25 Approve all outside technical and vendor contracts.

2.26 Authorize purchases of necessary equipment and supplies, as appropriate.

2.27 When appropriate, implement actions in accordance with EPIP-EPP-25 for reclassification, termination and/or recovery.

2.28 Coordinate with the Work Control groups to schedule recovery meetings and prepare agenda.

2.29 If outside groups are to conduct investigations (e.g., NRC, Congressional Subcommittees, etc.) coordinate through the Technical Liaison and Advisory Manager to arrange for legal and technical interface as necessary. Also, determine the advisability of conducting an independent and parallel in-house investigation and direct same as appropriate.

2.30 If required, request D.O.E. assistance through FRMAP (Federal Radiological Monitoring and Assessment Plan) via the TLAM.

2.31 Ensure the initiation of the development of environmental impact studies.

2.32 Ensure an evaluation of a release is performed in accordance with 10CFR140.84, Radiological Criteria for Extraordinary Nuclear Occurrence per EPIP-EPP-16, Environmental Monitoring.

2.33 Ensure an estimate of the total population dose is made per EPIP-EPP-16, Environmental Monitoring.

2.34 Develop long term staffing plans for CED/RM positions and review staffing plans for other ERF's.

2.35 Ensure collection of paperwork developed during the emergency for later review and analysis.

2.36 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 18
FIGURE 1

INGREDIENTS FOR A GOOD UPDATE

- ☐ "Attention in the EOF; This (is/is not) a drill; This is an Update."
- ☐ Emergency Classification
- ☐ Plant Status
  - Briefly - Where we've been....
  - Where we are
  - Where we are going.....time frame if known
- ☐ Release information
- ☐ Protective Action status...Clarify NMPC PARs versus County Actions
- ☐ Outside involvement...NRC, INPO, GE, Others?
- ☐ "What other information or corrections does anyone have that relate to our status or plan?"
- ☐ "Any questions?"
- ☐ "End of update"

ATTACHMENT 18
FIGURE 2

CED GUIDELINES FOR NRC AND OFFSITE AGENCY INTERFACE

NOTE: This guideline refers to NRC, County or State (hereafter referred to as NRC/Offsite) emergency response personnel.

1. IF an additional CED is available, direct them to complete the actions contained in this guideline.

2. Introduce yourself to arriving NRC/offsite personnel.

3. Direct EOF Administrator to show above personnel to their respective EOF rooms.

4. Assign Nine Mile Point ERO personnel as contacts in each of the following areas:

   - dose assessment (request persons name from the ODAM)
   - plant assessment (request persons name from the EOF Administrator)
   - command/control (assign this person yourself)

5. Announce the following over the EOF PA system:

   "Attention in the EOF. The following persons have been assigned as primary contacts for the NRC, State and County EOF responders (state the name of each contact person and their area of responsibility). I would request that all NRC, State and County personnel direct all questions to those individuals. Thank you.

6. Periodically update NRC/Offsite personnel regarding plant and radiological conditions, as well as intended protective actions for onsite and offsite.

NOTE: The assignment of contact personnel does NOT preclude the NRC/Offsite personnel from talking with other NMP EOF staff.

1.0 RESPONSIBILITY

The Technical Liaison and Advisory Manager is responsible for advising the CED/RM on technical/engineering matters and coordinate an advisory group comprised of technical and managerial personnel from government, contract and consultant support organizations.

2.0 ACTIONS

2.1 Activate the EOF per EPIP-EPP-13 as needed.

2.2 Refer to Attachment 1, ERF General Actions.

2.3 Obtain initial briefing from the TSC/NED Coordinator.

2.4 Contact representatives of the Legal Department and advise the individual contacted of the emergency situation. If necessary, request that an Attorney and a Claims Department representative be dispatched to the EOF.

NOTE: Provide proper travel direction (to avoid radioactive plume) as appropriate. Also determine if individuals have an Oswego County Access Control ID card. If not, coordinate obtaining these cards through the EOF Security Director.

2.5 Contact the American Nuclear Insurers (ANI) and provide a technical briefing on the accident situation. Provide the names and phone numbers of Risk Management personnel.

2.6 Inform the Communications Coordinator in the EOF that you have taken over the notifications to ANI.

2.7 Interface with onsite G.E. representative.

2.8 Contact a representative of the Risk Management Department and advise the individual contacted of the emergency situation and of your conversation with ANI.

2.9 Contact a representative of the Quality Assurance Department and advise the individual contacted of the emergency situation.

2.10 When contacted by the INPO Liaison, make arrangements for entry into the EOF.

2.11 Interface with the INPO Liaison on matters relating to assistance requests made to INPO and/or the industry.

2.12 Contact the EOF/JNC Liaison and coordinate release of information to public.

2.13 Establish an advisory group of engineers and technicians (including outside consultants, Legal and Claims personnel) to provide assistance to the Corporate Emergency Director/Recovery Manager.

2.14 Ensure that necessary plant modifications, designs, etc. are appropriately reviewed by the Quality Assurance Department.

2.15 Authorize purchases of necessary equipment and supplies, as appropriate.

2.16 Ensure all engineering-related activities and support are properly initiated and carried out.

2.17 Review and approve all changes to emergency procedures and ensure appropriate review of all necessary plant modifications, designs, etc. Interface with the SORC and SRAB, as applicable.

2.18 Periodically interface with the Work Control groups to assure appropriate scheduling and prioritization of activities.

2.19 After the emergency condition has subsided, assist the CED/RM in the development of termination and/or recovery criteria in accordance with EPIP-EPP-25.

2.20 If outside groups are to conduct investigations (e.g., NRC, Congressional Subcommittees, etc.) coordinate with the Corporate Emergency Director/Recovery Manager, Legal Department, and others as necessary to arrange for legal and technical interface.

2.21 Determine the advisability of conducting an independent and parallel in-house investigation, and direct same as appropriate.

2.22 Develop long term staffing plans for support organizations as needed.

2.23 Collect paperwork developed during the emergency for later review and analysis.

2.24 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

1.0 RESPONSIBILITY

The Administrative/Logistics Manager is responsible for administrative and logistic functions required to support the entire off-site and on-site emergency organizations. The types of support services could include:

- General Administration
- Transportation of materials, personnel, etc.
- Personnel administration and accommodations
- Purchasing
- Petty Cash
- Outside plant support
- Commissary
- Safety
- Sanitation
- Human Resources
- Communications
- Non-technical staffing

2.0 ACTIONS

2.1 Activate the EOF in accordance with EPIP-EPP-13.

2.2 Refer to Attachment 1, ERF General Actions.

2.3 Verify that sufficient numbers of secondary responders are available and are reporting to the emergency facility by reviewing the fax from Community Alert Network (CAN) located at the CAN designated fax.

2.4 Obtain a briefing from the CED/RM or the TLAM and determine administrative/logistics needs.

2.5 Contact each of the following groups and advise the contact of the situation and relate any current or anticipated assistance that may be needed:

- NMPNS Admin. Support/Services
- NMPC Purchasing
- NMPC Transportation
- NMPC Treasury
- NMPC Materials Management
- NMPC Network Management

NOTE: Provide proper travel direction (to avoid radioactive plume) as appropriate. Also determine if individuals contacted have an Oswego County Access Control ID card. If not, coordinate obtaining these cards through the EOF Security Director.

2.6 Establish general administrative activities, as required or requested, for all emergency response/recovery centers, including the following:
- Typing services
- Xerox services
- Stenographic support
- Facsimile services
- Audio/visual aids, graphics, printing and photography
- Communications services
- Office furniture

2.7 Establish a commissary (if appropriate) and arrange for food service and water supply support for personnel at each emergency response/recovery facility.

2.8 Establish areas for handling transportation and housing functions, and evaluate their needs daily.

2.9 Secure use of the NMPC helicopter upon request via the Transportation Coordinator.

NOTE: Consult with the Environmental Sample/Survey Team Coordinator before requesting the helicopter so that radiological conditions at and in route to the helipad may be evaluated.

2.10 Arrange for office facilities as necessary which may include the following:
- Additional trailers (including power supplies, HVAC, etc.)
- General maintenance, housekeeping and janitorial services
- Lavatory and sanitation facilities
- Trash removal
- Mail delivery
- Communications
- Repair of office equipment

2.11 Periodically review human resources and needs, including the following:
- Work schedules
- Staff replacement
- Payroll and petty cash

2.12 Arrange for miscellaneous resources, including the following:
- Laboratory supplies
- Additional dosimetry and radiation equipment
- Additional Staff

2.13 Arrange for the coordination and supply of materials and equipment from the NMPNS stores facilities, as appropriate.

2.14 Coordinate with the Work Control groups in developing work schedules and prioritizing administrative/logistics activities

2.15 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

1.0 RESPONSIBILITY

The Security Director is responsible for providing overall direction for security and traffic control at the NMPC facilities, providing additional security personnel (as required), and coordinating with the Security Coordinator the off-site security and police forces involved in the emergency.

2.0 ACTIONS

2.1 Refer to Attachment 1, ERF General Actions.

2.2 Perform, or arrange for performance of, breath analysis of individuals declaring alcohol consumption within 5 hours of reporting for duty by qualified breathalyzer technique.

2.3 Notify appropriate Security personnel of the situation at NMPNS.

2.4 Obtain briefing from the CED/RM or TLAM of plant status and Security needs..

2.5 Ensure the EOF registration desk is manned as necessary.

2.6 Call in (or put on standby) additional security personnel to establish/maintain security (site, EOF, JNC, etc.).

2.7 Ensure provisions for security at the Joint News Center have been initiated.

2.8 Establish and maintain a security communications center with NMPC security personnel and appropriate off-site law enforcement groups.

2.9 Coordinate on-site security efforts via the Security Coordinator located in the Security Tactical Operations Center (STOC). Provide direction to the Security Coordinator as necessary.

2.10 Coordinate off-site security efforts with appropriate off-site security and law enforcement groups.

NOTE: Requests for any outside law enforcement assistance must be coordinated through the Oswego County Sheriff.

2.11 Ensure that appropriate security measures (including badging) have been established and maintained at all emergency response/recovery facilities (e.g., EOF, JNC, Site).

2.12 Establish a "priority" system for providing security assistance.

2.13 Ensure that the Oswego County Sheriff's Office has established road blocks at both ends of private road (i.e., site entries). Supplement with and maintain NMPC security at all roadblocks, if appropriate.

2.14 Establish and maintain traffic-control patterns (flow) at all NMPC facilities involved in the emergency response/recovery.

2.15 Consult with the ODAM on protective measures to be taken by Security Department personnel.

2.16 Coordinate security activities with the Corporate Emergency Director/Recovery Manager.

2.17 Interface with the Work Control groups as appropriate to schedule and prioritize security-related activities and requirements.

2.18 Interface with the Legal Department representative, as appropriate, on legal implications of and authorities in security-related activities.

2.19 If necessary, request and coordinate contractual off-site security assistance.

2.20 Periodically consult with Manager System Security, security personnel at Corporate Headquarters, and outside law enforcement agencies to determine and arrange for any additional security resulting from the emergency situation (e.g., potential protest demonstrations, telephoned security threats, etc.).

2.21 Upon request, secure the NMPC helicopter if the Administrative/Logistics Manager is not available to carry out this responsibility.

NOTE: Consult with the Environmental Sample/Survey Team Coordinator before requesting the helicopter so that radiological conditions at and in route to the helipad may be evaluated.

2.22 Upon request, provide personnel to allow NRC personnel access to the Loomis Center radio tower so that they may install portable radio equipment.

2.23 Assist the CED/RM as necessary in developing termination and/or recovery criteria as needed.

2.24 In conjunction with the Security Coordinator, develop long term staffing plans as necessary.

2.25 Collect paperwork developed during the emergency for later review and analysis.

2.26 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

1.0 RESPONSIBILITY

The EOF Administrator is responsible for EOF setup, staffing, operations and equipment and coordinates these activities with the Administrative Logistics Manager (ALM).

2.0 ACTIONS

2.1 Activate the EOF in accordance with EPIP-EPP-13.

2.2 Refer to Attachment 1, ERF General Actions.

2.3 Verify that sufficient numbers of secondary responders are available and are reporting to the emergency facility by reviewing the fax from Community Alert Network (CAN) located at the CAN designated fax.

2.4 Make an announcement using the EOF PA system requesting that all EOF staff ensure they have registered at the EOF Registration Desk.

2.5 Assign EOF Technical Assistants to staff the EOF Technical Assessment Room:
- To act as an assistant to the CED/RM
- To staff the EOF/TSC/JNC communications
- To post information

2.6 Call the NLC Receptionist (x2080) and inform them to complete Attachment 10 of EPIP-EPP-13.

2.7 Assign Technical Liaison to the Oswego County and New York State Emergency Operations Centers. Any NMPC employee that has plant specific knowledge of the affected unit may be used. A job aid with directions to both facilities is available at the EOF Administrators desk.

2.8 Ensure communication notifications with outside agencies are transferred to the EOF and maintained as per EPIP-EPP-20.

2.9 Periodically evaluate status boards for technical accuracy.

2.10 Supply personnel to act as Technical Briefers to the Joint News Center.

2.11 When members of the NRC arrive during an emergency situation, notify the Corporate Emergency Director/Recovery Manager and escort the NRC Team to a conference room for a briefing. Utilize Attachment 22, Figure 1, "EOP Administrator Guidelines for NRC and Offsite Agency Interface".

2.12 Obtain support from computer support personnel for equipment problems.

2.13 Collect paperwork developed during the emergency for later review and analysis.

2.14 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 22
FIGURE 1

EOF ADMINISTRATOR GUIDELINES FOR NRC AND OFFSITE AGENCY INTERFACE

NOTE: This guideline refers to NRC, County or State (hereafter referred to as NRC/Offsite) emergency response personnel.

1. When directed by the CED, assign a contact person to meet the needs of NRC/Offsite personnel responding to the EOF.

2. Assign that contact person to complete the remainder of this guideline.

NOTE: The remainder of this guideline is to be completed by the Technical Assessment offsite contact person.

3. Introduce yourself and the EOF Plant/Technical Assessment Team to NRC/Offsite personnel.

4. Request that any questions or concerns be directed to you.

NOTE: It is acceptable for the NRC/Offsite personnel to ask questions of the tech assessment staff. Tech assessment staff may answer any questions they feel appropriate.

5. Respond to any questions, requests for information or other needs as requested by NRC/Offsite.

6. Verify that NRC/Offsite personnel are aware of emergency classification changes and significant changes in plant conditions.

ATTACHMENT 23: OFF-SITE DOSE ASSESSMENT MANAGER

1.0 RESPONSIBILITY

1.1 The Off-Site Dose Assessment Manager (ODAM) is responsible for managing the off-site dose assessment aspects of an emergency to determine radiological consequences and hazards to the general public for the purpose of protective action recommendations.

2.0 ACTIONS

2.1 Activate the EOF as necessary in accordance with EPIP-EPP-13.

2.2 Refer to Attachment 1, ERF General Actions.

2.3 Verify that sufficient numbers of secondary responders are available and are reporting to the emergency facility by reviewing the fax from Community Alert Network (CAN) located at the CAN designated fax.

2.4 Ensure the following positions are filled:
- One Radiological Assessment staff member
- Meteorological Advisor
- Environmental Survey Sample Team Coordinator (ESSTC)

2.5 Obtain a briefing from the CED/RM, RAM, and the control room chemistry technician.

2.6 Coordinate the staffing of the HPN line with the RAM.

2.7 Implement EPIP-EPP-08.

2.8 Direct the Dose Assessment staff to maintain radiologically status boards as needed.

2.9 Direct an RP Tech to perform periodic radiological surveys as necessary.

2.10 Continually update the CED/RM on dose assessment activities and protective action recommendations.

2.11 Provide updated Part II Notification Fact sheets at approximately 30 minute intervals to the Communications Coordinator.

2.12 Coordinate dose projection activities with New York State and Oswego County representatives in the EOF.

2.13 Interface with offsite agency personnel as directed by the CED using Attachment 23, Figure 1, "ODAM Guidelines for NRC and Offsite Agency Interface", as a guide.

2.14 Maintain hard copies of status board updates, dose calculations, meteorological data and downwind survey team results for later review and analysis.

2.15 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 23
FIGURE 1

ODAM GUIDELINES FOR NRC AND OFFSITE AGENCY INTERFACE

NOTE: This guideline refers to NRC, County or State (hereafter referred to as NRC/Offsite) emergency response personnel.

1. When directed by the CED, assign a contact person to meet the needs of NRC/Offsite personnel responding to the EOF.

2. Assign that contact person to complete the remainder of this guideline.

NOTE: The remainder of this guideline is to be completed by the Assessment offsite contact person.

3. Introduce yourself and the EOF Dose Assessment Team to NRC/Offsite personnel.

4. Request that any questions or concerns be directed to you.

NOTE: It is acceptable for the NRC/Offsite personnel to ask questions of the dose assessment staff. Dose assessment staff may answer any questions they feel appropriate.

5. Respond to any questions, requests for information or other needs as requested by NRC/Offsite.

6. Resolve differences in NRC/Offsite dose projections or protective actions.

7. Verify that NMPC dose projections, downwind survey team results, meteorology forecasts and source term data are provided to NRC, County and State.

1.0 RESPONSIBILITY

The Joint News Center Director (JNC Director) is responsible for preparing news releases, coordinating all outgoing public information, ensuring news releases are reviewed and approved by the CED/RM or SED as appropriate, and ensuring news releases are provided timely and accurate to public officials, the press and the general public.

2.0 ACTIONS

2.1 Notify appropriate personnel within your department of the situation at NMPNS and any actions to be taken. (Use PACC On-Call schedule).

2.2 Report to the Joint News Center (JNC) when notified.

2.3 Verify that sufficient numbers of secondary responders are available and are reporting to the emergency facility by reviewing the fax from Community Alert Network (CAN) located at the CAN designated fax.

2.4 Activate the JNC in accordance with EPIP-EPP-27

2.5 Refer to Attachment 1, ERF General Actions as appropriate.

2.6 Contact the Site Emergency Director or TSC/EOF Liaison in the TSC and receive a briefing on initial accident conditions.

2.7 Establish and maintain communications with the Vice President PACC Department and keep him informed on the status of the emergency.

2.8 Establish and maintain coordination with the Corporate Emergency Director/Recovery Manager directly or through the EOF-JNC Liaison and ensure that all press releases are reviewed and approved.

2.9 Maintain coordination with the EOF-JNC Liaison located in the EOF.

2.10 Assist in the preparation of news releases.

2.11 Ensure a copy of every news release is sent to the PACC offices in Syracuse.

2.12 Implement actions in accordance with EPIP-EPP-27.

2.13 Ensure that the Joint News Center, Media Response and Rumor Control Programs are being activated for an Alert, Site Area Emergency or General Emergency.

2.14 Establish contact and coordinate activities with both State and local Public Information Officers (PIOs).

2.15 Develop, as soon as possible, a schedule for press briefings.

2.16 Contact EOF administrator and request Technical Briefer be sent to the Joint News Center.

2.17 Contact ODAM and request a Rad Briefer be sent to the Joint News Center.

2.18 Ensure legal department representative is available for providing consultation regarding public information.

2.19 If possible, periodically arrange for a knowledgeable senior company official to attend press conferences (e.g., Corporate Emergency Director/Recovery Manager).

2.20 Develop long term staffing plans as necessary for the JNC staff.

2.21 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 25
EOF-JNC LIAISON

1.0 RESPONSIBILITY

The EOF-JNC Liaison is responsible for coordinating all outgoing information and ensuring news releases are provided to the CED/RM or SED (as appropriate).

2.0 ACTIONS

2.1 Refer to Attachment 1, ERF General Actions.

2.2 Contact the TLAM or EOF Technical Assistants and receive a briefing on initial accident conditions.

2.3 Establish and maintain communications with the JNC staff and keep them informed of the status of the emergency.

2.4 Establish and maintain coordination with the Corporate Emergency Director/Recovery Manager to ensure review and approval of all press releases.

2.5 Assist in the preparation of news releases:

a. Ensure information to be released to the public has been reviewed by the TLAM and is both technically accurate and easily understandable.

b. If possible, ensure a representative of the Legal Department reviews all news releases to guard against legal or insurance problems, as necessary.

2.6 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

1.0 RESPONSIBILITY

The Environmental Survey/Sample Team Coordinator is responsible for providing technical and administrative direction to environmental monitoring teams during a declared emergency, and assisting in the evaluation of on-site and off-site dose assessment aspects of an emergency to determine potential or actual radiological impacts to site personnel and the general public based on environmental measurements.

2.0 ACTIONS

2.1 As necessary, activate the EOF in accordance with EPIP-EPP-13.

2.2 Refer to Attachment 1, ERF General Actions.

2.3 Obtain a briefing as to plant conditions, radiological data and other information as appropriate.

2.4 Ensure proper use of communications equipment in accordance with EPIP-EPP-17.

2.5 Ensure exposure control is in accordance with EPIP-EPP-15.

2.6 Interface with the ODAM for corrective actions in progress and for projected off-site doses to the public based on the type of accident.

2.7 Interface with the ODAM to discuss a survey strategy that would verify projected off-site doses.

2.8 Assign personnel to perform environmental monitoring as directed by Radiological Assessment Manager per guidance provided in EPIP-EPP-07. Priorities for assignment will depend on plant conditions; the following order of tasks is provided as a guide:

- Dose Rate Confirmation - EPIP-EPP-07
- Off-Site Monitoring - EPIP-EPP-07 and EPIP-EPP-16
- Monitoring of Evacuating Vehicles and Personnel - EPIP-EPP-19

2.9 Establish communications with environmental (downwind) survey teams. Assess their availability and location. indicate survey team locations on maps provided.

2.10 Provide appropriate precautions and directions on expected or potential hazards, protective clothing requirements, and exposure control (per EPIP-EPP-15, "Health Physics Procedure").

2.11 Provide data to the ODAM for dose projections. Ensure all data received is logged on status boards.

2.12 Ensure survey teams are briefed periodically on plant conditions (use discretion so as not to alarm the public).

2.13 Notify downwind teams as soon as you know that a release has occurred.

2.14 Coordinate environmental monitoring activities with local, state and federal agencies.

2.15 Ensure that the EOF radio operator is recording all data reported by the survey teams on the Survey Team Report form.

2.16 Ensure that data received from the survey teams is being transmitted to the TSC.

2.17 Provide copies of survey team report data logged on the status board sheet to county, state and federal personnel located in the EOF as well as the ODAM and public information personnel.

2.18 Periodically update instructions to the survey teams as new information becomes available.

2.19 Ensure that meteorological data is being posted on status boards and survey maps. Ensure forecasts are being obtained.

2.20 Provide administrative and technical direction to the re-entry teams in accordance with EPIP-EPP-12.

2.21 Retain for inclusion in the Permanent Plant File records generated as a result of an actual declared emergency.

ATTACHMENT 27
CONTROL ROOM INFORMATION LIAISON

1.0 RESPONSIBILITIES

The Control Room Information Liaison is responsible for providing the Emergency Response Facilities (ERF) with plant conditions/events, systems status, and operator responses and actions. This position reports to the TSC Technical Data Coordinator.

2.0 Actions

NOTE: The purpose of the Control Room Information Liaison is for the transmission of technical data only. This position should not be used for "command and control" activities, requests for action or Communications Aide activities.

2.1 Enter affected control Room and inform the SSS that the Control Room Information Liaison position is now staffed.

2.2 Inform the Technical Data Coordinator in the TSC that the Control Room Communicator position is now staffed. (This will normally be done through the EOF/TSC/CR Liaison)

2.3 Establish and maintain communications with the following, using the Tech Information Line or telephone:

- TSC (EOF/TSC/CR Liaison)
- EOF (Tech Assistant)

2.4 Provide plant status/events, systems status, alarms, and operator responses/actions to all ERFs as they occur or as requested.

2.5 Respond to any requests for information from the ERFs.

2.6 Retain for inclusion into the Permanent Plant File records generated as a result of an actual declared emergency.

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EPIP-EPP-24

REVISION 01

NUCLEAR TRANSPORTATION ACCIDENTS

TECHNICAL SPECIFICATION REQUIRED

Approved by:
N. L. Rademacher — Plant Manager - Unit 1 — Date: 3/22/96

Approved by:
J. T. Conway — Plant Manager - Unit 2 — Date: 3/28/96

PERIODIC REVIEW, 07/17/97, NO CHANGE

PERIODIC REVIEW,07/22/96,NO CHANGE

Effective Date: 04/03/96

PERIODIC REVIEW DUE DATE JULY 1998

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TABLE OF CONTENTS

1.0 PURPOSE

This procedure provides guidelines for NMPNS personnel response to an off-site nuclear transportation accident.

2.0 REFERENCES AND COMMITMENTS

2.1 Technical Specifications

None

2.2 Standards, Regulations, and Codes

2.2.1 10CFR20, Standards for Protection Against Radiation

2.2.2 10CFR30, Rules of General Applicability to Domestic Licensing of Byproduct Material

2.2.3 10CFR40, Domestic Licensing of Source Material

2.2.4 10CFR50, Domestic Licensing of Production and Utilization Facilities

2.2.5 10CFR71, Packaging and Transportation of Radioactive Material

2.2.6 49CFR171, General Information, Regulations, and Definitions - Hazardous Materials Regulations.

2.2.7 49CFR173, Shippers-General Requirements for Shipments and Packages

2.2.8 40CFR302, Designation-Reportable Quantities and Notification

2.2.9 6-NYCRR, Rules and Regulations for Protection and Control of Environmental Pollution by Radioactive Material

2.3 Policies, Programs, and Procedures

2.3.1 Fire Command Lesson Plan, NMP Nuclear Training Department

2.3.2 Oswego County Radiological Emergency Response Plan and Procedures

2.3.3 New York State Radiological Emergency Preparedness Plan

2.3.4 EPIP-EPP-27, Emergency Public Information Procedure

2.3.5 EPIP-EPP-04, Personnel Injury or Illness

2.3.6 EPIP-EPP-07, Downwind Radiological Monitoring

2.3.7 EPIP-EPP-16, Environmental Monitoring

2.3.8 EPIP-EPP-20, Emergency Notifications

2.4 Technical Information

2.4.1 "A review of the Department of Transportation (DOT) Regulations for Transportation of Radioactive Materials", USDOT, August, 1976

2.4.2 INPO, "Voluntary Assistance Agreement By and Among Electrical Utilities Involved in Transportation of Nuclear Material", September 14, 1982

2.5 Commitments

Sequence Number	Commitment Number	Description
1	NCTS 3122-12	Responders may report directly to the accident scene.
2	NCTS 3122-9	Consider the use of tarps to control contamination spread.
3	NCTS 3122-11	Incorporate applicable Incident Command System information.
4	NCTS 3122-8	Incorporate applicable NY State procedure information.
5	NCTS 3122-13	Describe what non-NMP organizations expect of NMP responders
6	NCTS 3122-7	It may be helpful to converse with the truck driver.
7	NCTS 3122-10	Verify all packages are accounted for.
8	NCTS 3122-16	Provide more detailed guidance for PACC members at the accident scene.

3.0 DEFINITIONS

3.1 A_1

The maximum activity of special form radioactive material permitted in a Type A package.

3.2 A_2

The maximum activity of radioactive material, other than special form or low specific activity radioactive material, permitted in a Type A package.

3.3 Agreement State

Any state with which the Nuclear Regulatory Commission has entered into an effective agreement regarding licensing. "Non-agreement State" means any other state.

3.4 Airborne Radioactive Material

Any radioactive material dispersed in the air in the form of dusts, fumes, mists, vapors or gases.

3.5 Byproduct Material

Any radioactive material (except Special Nuclear Material) made radioactive by exposure to the radiation incident to or yielded in the process of producing or utilizing Special Nuclear Material (SNM). The majority of the radwaste produced by nuclear power utilities falls within this category.

3.6 Carrier

A person engaged in the transportation of passengers or property by land or water as a common, contract, or private carrier or by civil aircraft.

3.7 Closed Transport Vehicle

A transport vehicle equipped with a securely attached exterior enclosure that during normal transportation restricts the access of unauthorized persons to the cargo space containing the radioactive materials. The enclosure may be either temporary or permanent and in the case of packaged materials may be of the "see-through" type and must limit access from top, sides, and ends.

3.8 Curie

That amount of radioactive material which disintegrates at the rate of 37 billion atoms per second.

3.9 Exclusive Use

Also referred to as "sole use" or "full-load" - The sole use of a conveyance by a single consignor, for which all initial, intermediate, and final loading and unloading are carried out in accordance with the direction of the consignor or consignee. Specific instructions for maintenance of exclusive use shipment controls must be issued in writing and included with the shipping paper information provided to the carrier by the consignor.

3.10 Fissile Material

Any material (except natural or depleted uranium) consisting of or containing one or more of the fissile radionuclides. Fissile radionuclides are plutonium-238, plutonium-239, plutonium-241, uranium-233 or uranium-235.

3.11 High Integrity Container (HIC)

A container designed to prevent the egress of its contents in a land burial environment for approximately 300 years.

3.12 Highway Route Controlled Quantity

A single package quantity which exceeds 3,000 times the A_1 value (special form), 3,000 times the A_2 value (normal form), or 30,000 curies, whichever is least. A_1 A_2 Tables, 49CFR173.435.

3.13 Licensed Material

Source material, special nuclear material, or by-produce material received, possessed, used, or transferred under a general or specific license issued by the U. S. Nuclear Regulatory Commission.

3.14 Limited Quantity

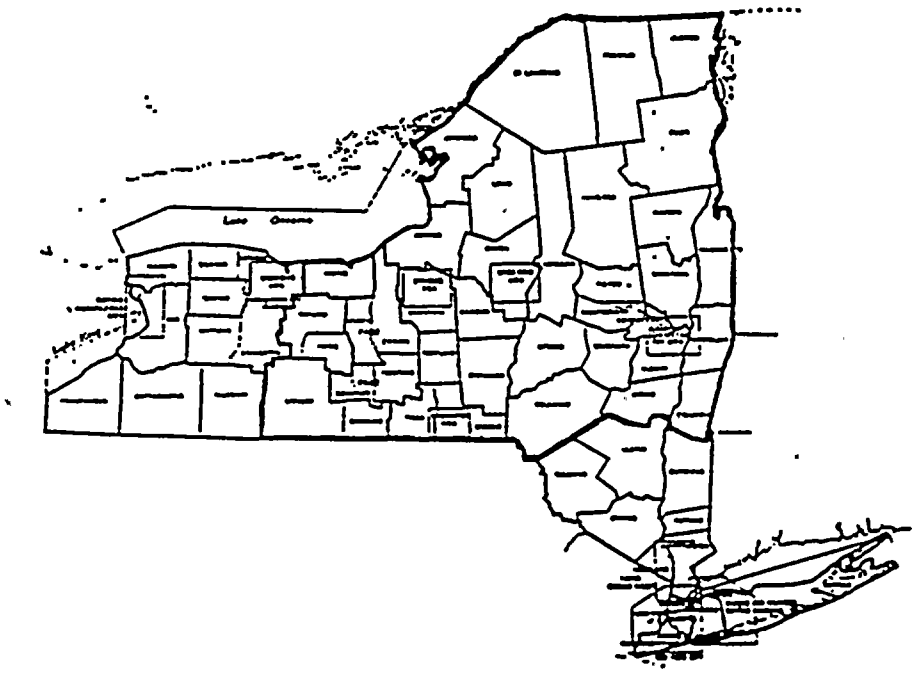
A quantity of radioactive material not exceeding the materials package limits of 49 CFR 173.423 and which conform with the requirements in 49CRF173.421.

3.15 Low Specific Activity (LSA)

The definition is broad in scope and should be referred to as stated in 49CFR173.403(n).

3.16 NMPC Geographical Boundaries

The figure below shows typical NMPC Nuclear Transportation Accident Response boundaries. The bold dark line represents these boundaries. The area within the bold lines is the area to which NMPC will respond.



3.17 Non-fixed Radioactive Contamination

Radioactive contamination that can be readily removed from a surface by wiping with an absorbent material. See 49CFR173.433 for limits.

3.18 Normal Form

Radioactive material which has not been demonstrated to qualify as "special form radioactive material".

3.19 Package

The packaging together with its radioactive contents as presented for transport.

3.20 Packaging

For radioactive materials, the assembly of components necessary to ensure compliance with packaging requirements.

3.21 Radioactive Article

Any manufactured instruments and articles such as an instrument, clock, electronic tube or apparatus, or similar instrument and article having radioactive material as a component part.

3.22 Radioactive Material

Any material having a specific activity greater than 0.002μCi/g.

3.23 Source Material

(1) Uranium or thorium, or any combination thereof, in any physical or chemical form, or (2) ores which contain by weight one-twentieth of one percent (0.05 percent) or more of (a) uranium, (b) thorium, or (c) any combination thereof. Source material does not include special nuclear material (SNM).

3.24 Special Form

A radioactive material that would present a direct radiation hazard but little hazard of contamination or radiotoxicity if released from its package. Special form is usually a solid piece or a sealed encapsulation and must meet the criteria established in 49CFR173.469.

3.25 Special Nuclear Material (SNM)

(1) Plutonium, uranium-233, uranium-enriched in the isotope-233 or the isotope-235, or (2) any material artificially enriched by any of the foregoing. This definition does not include source material.

3.26 Transport Index

The dimensionless number (rounded up to the first decimal place) placed on the label of a package to designate the degree of control to be exercised by the carrier during transportation. The transport index is to be determined as follows:

> The number expressing the maximum radiation level in millirem per hour at one meter from the external surface of the package. For example, at one meter 1.04 mrem/hr would become a Transport Index of 1.1.

3.27 Type A Packaging

Packaging designed to retain the integrity of containment and shielding under normal conditions of transport as demonstrated by tests set forth in 49CFR173.465, 173.466, and 49CFR173.412.

3.28 Type B Packaging

Packaging that meets the requirements of Type A packaging and additionally meets hypothetical accident test conditions on 10CFR71.

4.0 RESPONSIBILITIES

4.1 Station Shift Supervisor (SSS) - Unit 1

4.1.1 Assumes overall responsibility for all off-site emergencies.

4.1.2 Notifies station emergency response teams.

4.1.3 Maintains knowledge regarding the current status of off-site emergency response actions taken by station personnel.

4.2 Station Shift Supervisor (SSS)/Chief Shift Operator (CSO) - Unit 2

4.2.1 Any notification of an Offsite Nuclear Transportation Accident shall be immediately referred to the Unit 1 SSS or CSO.

4.3 Chief Shift Operator (CSO) - Unit 1

4.3.1 Assumes overall responsibility for completion of the Nuclear Transportation Accident Form (Figure 1).

4.3.2 Forwards the Nuclear Transportation Accident Form (Figure 1) to the Unit 1 SSS.

4.4 Supervisor Radwaste Operations

4.4.1 Coordinates the safe and efficient conduct of station related radioactive waste operations.

4.4.2 Schedules, coordinates, and supervises radioactive waste shipments.

4.4.3 Directs and supervises work of station radwaste operators.

4.4.4 Assists Unit Supervisor RP in determining material content and assessing the radiological consequences and actions pertaining to a nuclear transportation accident.

4.4.5 Provides advice and assistance regarding contact of off-site organizations associated with the packaging and shipment of the radioactive material.

4.4.6 Assists Manager RP in accident recovery activities as necessary, including cleanup, repackaging, relabeling, shipping, and agency notification.

4.5 Manager Radiation Protection (RP)

4.5.1 Dispatches a station team to the accident site.

4.5.2 Evaluates the radiological consequences of an off-site accident and the effect on the off-site general population.

4.5.3 Provides advice and support to medical personnel regarding contaminated wounds.

4.5.4 Provides advice and support for radiological activities as requested by off-site authorities.

4.5.5 Dispatches representatives to the hospital to provide hospital personnel with pertinent information regarding contamination, if necessary.

4.5.6 Assists in accident recovery activities as necessary, including cleanup, repackaging, relabeling, and restoration of the accident scene to preaccident status.

4.6 Radiation Protection Technicians

4.6.1 Respond as directed by the Unit 1 SSS or the Manager RP, or designee.

4.6.2 Provide radiation protection advice and support as directed by the team leader.

4.7 INPO Duty Officer

4.7.1 Coordinates requests for assistance in locating emergency manpower and equipment among signatories of the INPO, "Voluntary Assistance Agreement By and Among Electrical Utilities Involved in Transport of Nuclear Materials".

4.7.2 Disseminates information to agreement signatories concerning the incident as applicable to operation.

4.6.3 Organizes industry experts and advises signatories of agreement.

5.0 PRECAUTIONS

5.1 Hazardous substances other than radioactive material may be present at the accident scene including flammable solids, liquids or gasses; poisons; corrosives; compressed gases; reactive or toxic chemicals; irritants and biological agents (biohazards).

5.2 These other substances may pose a hazard to emergency response personnel, either through direct exposure or by their interactions with each other or with packages of radioactive materials.

5.3 A substance may be both radioactive and corrosive, flammable or toxic.

5.4 Other classes of hazardous material present problems that are of more immediate concern and danger than radioactive materials.

5.5 Be alert to the presence of hazardous substances and take extra precautions during response operations.

6.0 LIMITATIONS AND ACTIONS

6.1 The Unit 1 Control Room staff shall take the lead in all notifications, requests, etc. relating to a nuclear transportation accident.

6.2 All news media inquiries should be referred to:

6.2.1 Public Affairs and Corporate Communication Department (PACC) personnel present at the accident site; OR

6.2.2 PACC at the Syracuse office of Niagara Mohawk Power Corporation.

6.3 It is not necessary to execute steps or actions in the order listed to successfully perform this procedure.

7.0 PREREQUISITES

None

8.0 PROCEDURE

8.1 Accident Notification

8.1.1 Any notification of an off-site nuclear transportation accident will be immediately referred to either the Unit 1 Station Shift Supervisor (SSS) or the Unit 1 Chief Shift Operator (CSO).

NOTE: If accident is outside NMPC's geographical boundaries, refer to Section 8.4 of this procedure for special considerations.

8.1.2 The Unit 1 CSO or SSS should:

a. Obtain as much information as possible.

b. Record pertinent information on Part B of the Nuclear Transportation Accident Report Form (Figure 1).

c. Record the time Part B of Figure 1 was completed.

d. Sign Part B of Figure 1.

e. Upon completion of Part B, forward Figure 1 to the SSS.

8.1.3 The Unit 1 SSS should:

a. Complete the Nuclear Transportation Accident SSS or CSO Checklist (Figure 2).

b. Assess the nature of the accident and the request for assistance.

c. Provide the caller with information regarding station response.

d. Contact the Supervisor Radwaste Operations and the Manager RP.

1. During off-hours, use the on-call list for the Radiation Protection Department.

2. Transmit accident information.

3. Request the dispatch of a response team, with appropriate equipment, to the accident scene.

8.1.4 The response team should consist of a MINIMUM of:

a. One Supervisor RP

b. One Supervisor Radwaste Operations

c. A minimum of One RP Technician

8.1.5 (COMM 1) During off-hours, the Supervisor RP should call in additional off-duty station personnel (i.e., RP technicians) to either the station or the accident scene directly, as necessary.

8.2 Accident Response

8.2.1 The Manager RP and Supervisor Radwaste Operations should:

a. Designate the response team leader.

b. Arrange for station response team(s) to meet.

8.2.2 (COMM 1) When possible, station response personnel should:

a. Meet at the station.

b. Use the On-Call Emergency Response Vehicle to proceed to the accident location.

8.2.3 The response team leader should:

a. Provide direct supervision to the station response team.

b. Act as liaison with non-station emergency response personnel.

c. Identify station response personnel to non-station emergency response personnel.

d. Coordinate station personnel assistance.

e. Ensure station personnel response is conducted safely.

f. Report accident status information to the Unit 1 SSS as soon as possible and as often as necessary.

g. Discuss station personnel emergency response activities with the Unit 1 SSS.

8.2.4 The response team should:

a. Ensure equipment is available in the On-Call Emergency Response Vehicle, including as a minimum the supplies and equipment necessary to evaluate and monitor the situation and to provide adequate personnel protection for team members.

b. Obtain additional equipment, as necessary, from normal station or off-site emergency facilities.

1. Consider information known about the accident, such as material involved, material packaging, weather, etc.

(COMM 2) 2. Consider equipment which might be useful in mitigating the consequences of the accident, such as:

- Pails
- Shovels
- Plastic sheeting
- Tarps
- Plastic bags
- Protective equipment

8.2.4 (Cont)

c. Maintain an incident log recording significant response related activities.

* *

CAUTION

Upon approaching the accident scene, special attention MUST be given to special circumstances such as fire, chemical, or multiple hazards.

* *

d. Proceed to the accident location safely, obeying all traffic regulations.

8.2.5 When first to arrive at the accident scene, the response team should:

a. Provide emergency medical first aid, as necessary.

b. Secure the scene of the accident.

c. Ensure traffic will not present a further hazard.

d. Rescue of the injured and life-saving first aid take precedence over radiological hazards.

1. Accomplish rescue safely following common-sense guidelines (i.e., time, distance, shielding).

2. Perform rescue and first aid based on individual qualifications (i.e., knowledge of first aid techniques) of responding personnel.

e. If there is a fire or a high probability of a fire starting:

1. Establish a "control zone" of at least TWO HUNDRED (200) FEET from debris.

2. Clear personnel at least 2000 feet from the downwind direction.

f. If movement can be accomplished without undue risk to personnel, move undamaged packages of radioactive material from fire or corrosive acid areas.

8.2.5 (Cont)

* *

CAUTION

Be alert for fumes, smoke, and irritating or noxious odors.

* *

g. When possible, identify the presence of hazardous material cargo:

1. Observe package labels.

2. Observe United Nations identification number and vehicle placards.

NOTE: Do NOT rely entirely on vehicle placards since certain materials do not require placarding. Also, two or more classes of hazardous materials (other than radioactive) may be identified by a single "DANGEROUS" placard instead of by individual placards for each hazard class.

3. Use radiological survey instruments.

4. Review all available shipping documents.

8.2.6 (COMM 3) Incident Command System

a. System commonly used by US emergency response organizations (i.e., police, fire companies, nuclear plant emergency response personnel).

b. Purpose is the efficient, effective mitigation of emergency consequences.

c. Facilitates cooperative emergency response effort by establishing a universally accepted system for:

1. Communication

2. Command hierarchy

3. Response organization

d. Basic approach that can be applied to any type of emergency.

8.2.6 (Cont)

e. Terminology

1. Incident Commander

a) Individual in charge of the accident site and accident related activities.

b) Normally the highest ranking local fire official present.

(COMM 4) c) The County Director of Emergency Management has the lead responsibility for directing incident mitigation unless the governor declares a state of emergency.

2. Command Post

a) Location determined by Incident Commander

b) May be located at accident scene or remotely

c) Generally contains communication abilities

3. Sector

NOTE: Incidents are subdivided into sectors to more easily manage mitigation activities.

a) Distinctive aspect of the incident

b) Examples of sectors

- Medical assistance
- Traffic control
- Accounting for shipment packages
- Specific geographic area

4. Sector Commander

a. Designated by Incident Commander

b. Responsible for designated sector and informing Incident Commander of sector related status

8.2.7 (COMM 5) On arrival at an accident scene already being controlled by local or government officials the team should:

a. Report to the Incident Commander

b. Provide technical assistance as requested

c. Perform environmental radiological monitoring or sampling in accordance with EPIP-EPP-07, Downwind Radiological Monitoring and EPIP-EPP-16, Environmental Monitoring, as appropriate

8.2.8 The Supervisor Environmental Protection may direct environmental monitoring activities.

8.2.9 The response team should:

a. Obtain as much information as possible. When appropriate:

1. Discuss the situation with the individual directing emergency response at the scene.

(COMM 6) 2. Discuss the event with the driver of the vehicle transporting radioactive material.

3. Review the shipping documentation carried by the driver.

(COMM 7) 4. Account for packages listed in the shipping documentation.

5. Observe integrity of the packages.

b. Attempt to determine:

1. Name/address/phone number of the "shipper" and "carrier"

2. Origin of shipment

3. Weight of entire assembly or load

4. Nature and quantity of material

5. Destination of shipment

c. Record information from Step 8.2.9.b on the incident log.

8.2.10 The Unit 1 SSS or CSO should:

a. Complete Figure 1, Part B.

b. Attempt to contact the shipper (material sender) and the carrier (material Transport Company):

1. For notification of the incident and actions taken

2. To obtain more complete information concerning the potential hazard from the material

c. Immediately report appropriate information to the response team leader at the accident scene.

d. Record significant actions of station personnel in the Station Log.

8.2.11 When the response team leader determines that the accident scene is properly controlled by responsible off-site authorities, station personnel may return to the station.

8.3 (COMM 8) PACC

Public Affairs and Corporate Communication (PACC) personnel at the accident site should:

8.3.1 Obtain as much information as possible about the accident including current status, consequences, and mitigation.

8.3.2 Forward information to the PACC Department in Syracuse.

8.3.3 Handle new media requests as directed by the Manager, Nuclear Communications and Public Affairs or designee.

8.4 Response Outside NMPC Geographical Boundary

8.4.1 Direct station response in accordance with the following steps in addition to those tasks already described in this procedure.

8.4.2 These steps apply to station response as governed by INPO's Voluntary Assistance Agreement and are independent of accident material ownership.

8.4.3 Special consideration will be given to material originating from the station. Station assistance will generally not be provided outside NMPC's geographical boundary for non-station material.

8.4.4 Station Shift Supervisors (Unit 1 and Unit 2), the Manager RP, and the Supervisor Radwaste Operations make the decision to have station emergency personnel respond to the accident.

8.4.5 Call the INPO Duty Officer for assistance.

NOTE: All legal and financial requirements will be satisfied in accordance with INPO's "Voluntary Assistance Agreement By and Among Electrical Utilities Involved in Transportation of Nuclear Materials", dated September 14, 1982, and any other agreements entered into by NMPC.

8.4.6 The Unit 1 SSS and CSO shall question the INPO Duty Officer providing the accident notification to determine:

a. If the accident location is within the geographical boundary of one of the signatories of the INPO "Voluntary Assistance Agreement By and Among Electrical Utilities Involved in Transportation of Nuclear Material".

b. If the shipper is one of the signatories of the Voluntary Assistance Agreement (refer to Figure 1, Part B).

8.4.7 When a Voluntary Assistance Agreement signatory is involved:

a. The organization requesting assistance will be referred to as the "Requesting Company".

b. The organization providing assistance will be referred to as the "Responding Company".

c. The Unit 1 SSS or CSO shall obtain from the INPO Duty Officer the names and phone numbers of signatory contacts and provide this information to the Unit 1 Manager RP.

d. The SSS, the Manager RP, and the Supervisor Radwaste Operations shall discuss the accident details and determine tentative station response (or assistance request) recommendations.

e. The Manager RP, or designee, shall contact INPO and discuss accident details.

f. Assistance rendered shall be voluntary.

g. Determine emergency response assistance, either to or from the signatory and record on Figure 1, Part B.

h. INPO shall coordinate emergency response.

8.4.7 (Cont)

i. The "Requesting Company" through an INPO Duty Officer should:

1. Provide the "Responding Company" with a description of assistance requested and the anticipated duration for which such assistance is desired.

2. Provide general direction regarding actions to be taken by the "Responding Company".

3. Be responsible for making any report to governmental authorities and news media.

4. Notify the "Responding Company" when its assistance is no longer needed.

5. Inform the "Responding Company" of any specific equipment which may be required in the particular situation.

j. The "Responding Company" should:

1. Be responsible for determining the procedures to be followed in furnishing assistance.

2. Furnish the requested emergency personnel and equipment at its direction.

3. Have the right, at any time and in its sole judgment and discretion, to withdraw personnel and equipment furnished to the "Requesting Company" and return such personnel and equipment to their working base.

4. Give notice, through an INPO Duty Officer, to the "Requesting Company" of the withdrawal of personnel or equipment furnished.

5. Make all arrangements for the transportation of its personnel and equipment from and to their working base or home.

6. Equip personnel with such normal working and protective equipment as shall be compatible with the circumstances under which said personnel shall function.

7. Keep time sheets and work records pertaining to "Responding Company" personnel and equipment.

8.4.7.j (Cont)

8. Furnish the "Requesting Company" with a detailed statement of costs and expenses paid or incurred by the "Responding Company" in connection with the furnishing of assistance to the "Requesting Company".

k. Direct requests for assistance to INPO. Refer to INPO Address and Telephone (Enclosure 1).

ℓ. INPO contacts "Responding Companies" to locate sources of emergency manpower and equipment on behalf of the "Requesting Company".

m. INPO shall not be responsible for implementing, enforcing, or interpreting any of the above guidelines.

8.4.8 The Manager RP or designee shall log significant (major) activities associated with emergency response.

9.0 ACCEPTANCE CRITERIA

None

10.0 RECORD REVIEW AND DISPOSITION

The following records generated by this procedure as a result of an actual emergency reported at the Nine Mile Point Nuclear Station shall be maintained by Nuclear Records Management for the Permanent Plant File in accordance with NIP-RMG-01, "Identification, Maintenance, Storage, and Transfer of Nuclear Division Records":

Attachment 1, Voluntary Assistance Agreement By and Among Electric Utilities Involved in Transportation of Nuclear Materials, Counterpart Signature Page

Attachment 1, Voluntary Assistance Agreement By and Among Electric Utilities Involved in Transportation of Nuclear Materials, Letter Confirming Requested Assistance

Figure 1, Nuclear Transportation Accident Report Form

Figure 2, Nuclear Transportation Accident SSS or CSO Checklist

Figure 3, Nuclear Transportation Accident Control Room Communications Aid Checklist

Figure 4, Nuclear Transportation Accident Security Checklist

10.0 (Cont)

The following records generated by this procedure during Emergency drills or exercises are not required for retention in the Permanent Plant File:

Attachment 1, Voluntary Assistance Agreement By and Among Electric Utilities Involved in Transportation of Nuclear Materials, Counterpart Signature Page

Attachment 1, Voluntary Assistance Agreement By and Among Electric Utilities Involved in Transportation of Nuclear Materials, Letter Confirming Requested Assistance

Figure 1, Nuclear Transportation Accident Report Form

Figure 2, Nuclear Transportation Accident SSS or CSO Checklist

Figure 3, Nuclear Transportation Accident Control Room Communications Aid Checklist

Figure 4, Nuclear Transportation Accident Security Checklist

ATTACHMENT 1
VOLUNTARY ASSISTANCE AGREEMENT
BY AND AMONG
ELECTRICAL UTILITIES INVOLVED IN
TRANSPORTATION OF NUCLEAR MATERIALS

This Voluntary Assistance Agreement (hereinafter "Agreement") has been entered into by and among electric utilities involved in transportation of source material, special nuclear material, or byproduct material received, possessed, used or transferred under a general or specific license issued by the U.S. Nuclear Regulatory Commission pursuant to Title 10 of the Code of Federal Regulations (hereinafter "nuclear materials") and which have subscribed counterpart signature pages in the form attached hereto (hereinafter "Parties").

The Parties wish to set forth herein their understanding and agreement with respect to their mutual undertaking to each other in the situation wherein an emergency arises during the transportation of nuclear materials shipped by or on behalf of a Party and a request for assistance is issued to another Party in respect to such emergency and such assistance is provided. This Agreement is intended only to define the terms and conditions under which such assistance is provided. This Agreement is intended only to define the terms and conditions under which such assistance, if volunteered, will be rendered and received. It is understood that this Agreement does not impose any obligation on any Party to render or continue to render any such assistance but this Agreement does record the understanding of the Parties with respect to the rights and obligations which will be incurred in responding to requests for assistance.

NOW, THEREFORE, it is agreed, that:

1. Assistance rendered by a Party as described hereunder shall be entirely voluntary and, when given in response to a request by any Party for help during an emergency arising by reason of the transportation of nuclear materials shall be rendered in accordance with the terms and conditions herein.

2. The Party that requests assistance shall be known as the "Requesting Company" and the Party furnishing assistance shall be known as the "Responding Company". Attachment A is a suggested letter confirming an agreement whereby assistance will be furnished pursuant to this Agreement.

3. (a) Requesting Company shall notify Responding Company of the type of assistance requested and the anticipated duration during which such assistance is desired. Requesting Company may also provide general direction as to the actions to be taken by Responding Company. Responding Company shall furnish such assistance as it may decide. Except as such companies may agree otherwise, Responding Company shall be responsible for determining the procedures to be followed in furnishing such assistance and for supervising work at the site of the emergency. Requesting Company, in cooperation with Responding Company, shall make any report to governmental authorities and the news media. Requesting Company will notify Responding Company when its assistance is no longer needed.

3. (b) The furnishing of assistance hereunder shall be deemed to have commenced when personnel of the Responding Company are assigned to other than normal duties or transportation of equipment commences pursuant to a determination by the Responding Company to provide assistance to a Requesting Company under this Agreement and shall be deemed to have terminated when the transportation of such personnel or equipment back to their working base, or home (for personnel returning at other than regular working hours), is completed.

(c) The Responding Company shall make all arrangements for the transportation of its personnel and equipment from and to their working base or home.

4. (a) Employees of Responding Company shall at all times continue to be employees of and remain under the supervision and control of the Responding Company, including work procedures and/or safety rules, shall be those of the Responding Company.

(c) All personnel of the Responding Company shall be equipped by the Responding Company with such normal working and protective equipment as shall be compatible with the circumstances under which said personnel shall function hereunder; Requesting Company shall inform Responding Company of any specific equipment which may be required in a particular situation.

5. (a) Responding Company shall furnish the requested personnel and equipment to the extent that the Responding Company may determine to do so at its sole judgement and discretion.

(b) Responding Company shall have the right, at any time and in its sole judgement and discretion, to withdraw personnel and equipment furnished to the Requesting Company and return such personnel and equipment to their working base. Responding Company shall give written notice at least 24 hours in advance to Requesting Company of the permanent withdrawal of personnel or equipment furnished. Responding Company's withdrawal of personnel or equipment shall not affect any obligations which may have been incurred hereunder prior to such withdrawal or which may arise out of events occurring prior to such withdrawal.

6. All time sheets and work records pertaining to Responding Company personnel and equipment shall be kept by the Responding Company. The Responding Company shall furnish the Requesting Company with a detailed statement of all costs and expenses paid or incurred by the Responding Company in connection with the furnishing of assistance to the Requesting Company, which statement shall be paid by Requesting Company within thirty (30) days after receipt.

7. The Requesting Company shall reimburse Responding Company for all direct and indirect costs and expenses, not including a profit, incurred by Responding Company in giving assistance pursuant to this Agreement, including but not limited to costs and expenses related to or resulting from compliance with governmental requirements such as Title 10 of the Code of Federal Regulations Part 20. Such costs and expenses shall be computed in accordance with Responding Company's standard rates and accounting practices including such overheads as are determined by Responding Company to be applicable to such direct and indirect costs and expenses incurred by Responding Company. Requesting Company shall have the right to audit the records of Responding Company relative to work performed pursuant to this Agreement.

8. (a) In addition, and subject to the provisions of paragraph 8(b) hereof, Requesting Company shall indemnify and hold Responding Company, its officers, directors and employees, jointly and severally, harmless from and against any and all liability or loss, damage, cost or expense which any of them may incur by reason of bodily injury, including but not limited to death, to any person or persons, or by reason of damage to or destruction of any property, including but not limited to the loss of use thereof, which results from furnishing assistance pursuant to this Agreement, whether due in whole or in part to any act, omission, or negligence of Responding Company, its officers directors or employees.

(b) Where payments are made by Responding Company or its insurers to Responding Company's officers, directors or employees of their beneficiaries for bodily injury or death resulting from furnishing assistance pursuant to this Agreement, including but not limited to workers' compensation, disability, pension plan, medical and hospitalization, or other such payments, Requesting Company shall make reimbursement to Responding Company to the extent such payments increase the Responding Company's employee-related costs, whether such increase in costs occurs in the form of an increase in premiums or contributions, a reduction in dividends or premium refunds, or otherwise. Requesting Company shall also reimburse Responding Company for any deductible amounts or for any amounts paid by Responding Company as a self-insurer. Responding Company will request its insurer to waive any right of subrogation it may have against Requesting Company as a result of any payment described in this paragraph 8(b) which such insurer may make on behalf of Responding Company because of Responding Company's furnishing of assistance pursuant to this Agreement.

8. (c) In the event any claim or demand is made or suit, action or proceeding is filed against Responding Company, its officers, directors or employees, jointly or severally, alleging liability for which Requesting Company shall indemnify and hold harmless Responding Company, its officers, directors and employees under paragraph 8(a) hereof, Responding Company shall promptly notify Requesting Company thereof, and Requesting Company at its sole cost and expense, shall settle, compromise or defend the same in such manner as it in its sole discretion deems necessary or prudent. Responding Company shall cooperate with Requesting Company in the resolution of any such matter.

(d) Each party to this Agreement agrees to carry the amount of financial protection required by the Atomic Energy Act of 1954, as amended, and self-insurance or comprehensive liability insurance, including contractual liability coverage covering the indemnification and defense obligations set forth herein, subject to such types and amounts of self-insurance, retentions or deductibles as are consistent with good business practice in the industry.

(e) In the event a Responding Company provides assistance pursuant to this Agreement through an affiliate or subsidiary, the indemnification provided in this paragraph 8 to the officers, directors and employees of that Responding Company shall apply with equal force to the officers, directors and employees of that affiliate or subsidiary.

9. Each Party shall provide the Institute of Nuclear Power Operations (hereinafter "INPO") with an executed counterpart signature page to this Agreement and to any amendments hereto. This Agreement shall become effective when counterpart signature pages executed by at least two Parties shall have been received by INPO. This Agreement shall remain in effect as to any Party until such Party has withdrawn from the Agreement as provided below. Any electric utility involved in the transportation of nuclear materials may become a Party upon execution of the Agreement.

10. (a) INPO may provide certain administrative and emergency response support services in furtherance of this Agreement, such as maintaining and distributing to the Parties a roster of the signatories to this Agreement; providing copies of the Agreement and any amendments thereto to all Parties; and preparing and distributing to the Parties other documents, such as a list of sources of emergency manpower and equipment. INPO may provide such other services as may be requested of INPO from time to time by the Parties. The Parties recognize that INPO shall not be responsible for implementing, enforcing or interpreting this Agreement.

10. (b) The Parties shall defend, indemnify and hold harmless INPO, its officers, directors and employees, jointly and severally, from and against any and all liability or loss, damage, cost, or expense which results from performance of INPO's functions described in paragraph 10(a) of this Agreement, except as may result from the sole negligence or willful misconduct of INPO, its officers, directors or employees. Each Party hereby expressly waives any right it may have to assert any claim against INPO, its officers, directors, or employees arising out of its or their performance of the duties described in paragraph 10(a), except as may result from the sole negligence or willful misconduct of INPO, its officers, directors or employees.

(c) Following the occurrence of an emergency involving the transportation of nuclear materials INPO may, if asked to do so by a Requesting Company, help to locate sources of emergency manpower and equipment with which the Requesting Company may contract for assistance. If INPO does furnish such assistance and unless otherwise agreed by INPO and the Requesting Company, the Requesting Company and INPO shall have the same rights and obligations as if INPO were a Responding Company (including but not limited to the Requesting Company's obligations to INPO, its officers, directors and employees under paragraph 8 hereof), except that paragraphs 6 and 7 shall not apply either to Requesting Company or INPO and paragraph 8(d) shall not apply to INPO.

11. This Agreement will not create any rights or defenses in favor of any entity or person not a signatory to this Agreement except to the extent provided in this paragraph and in paragraphs 8 and 10 of this Agreement. This Agreement shall be binding upon and inure to the benefit of each signatory to this Agreement and the subsidiaries and affiliates of each such signatory.

12. Except as otherwise provided in paragraph 13, any Party may withdraw from this Agreement upon at least thirty (30) days prior written notice to INPO with a copy to all of the other Parties. Notice of withdrawal shall not affect any obligations which may have been incurred hereunder prior to the effective date of such notice or which may arise out of events occurring prior to that date. No party may withdraw from this Agreement while it is receiving assistance pursuant to this Agreement.

13. This Agreement may be amended by agreement of a majority of the Parties hereto. Such amendment shall be effective and binding upon all Parties thirty (30) days after INPO has received counterpart signature pages for the amendment executed by at least a majority of the Parties to the Agreement. INPO shall notify all Parties when at least a majority of the Parties have executed an amendment to the Agreement. No amendment shall affect any obligation which may have been incurred hereunder prior to the effective date of such amendment or which arises out of events occurring prior to that date. Notwithstanding the first sentence of paragraph 12, any Party may withdraw from this Agreement by submitting written notice to INPO at any time during the thirty (30) day period prior to the effective date of such amendment with a copy to all of the other Parties.

14. If any provision of this Agreement is determined to be invalid or unenforceable as to any Party or otherwise, such determination shall not affect the validity or enforceability of the other provisions of this Agreement as to that Party or otherwise.

ATTACHMENT 1 (Cont)
VOLUNTARY ASSISTANCE AGREEMENT
BY AND AMONG
ELECTRICAL UTILITIES INVOLVED IN
TRANSPORTATION OF NUCLEAR MATERIALS

COUNTERPART SIGNATURE PAGE

The undersigned company hereby agrees to become a Party to the Voluntary Assistance Agreement By And Among Electric Utilities Involved in Transportation of Nuclear Materials dated July 1, 1982.

Date _____ Company _____

By (see roster of signatories)
Corporate Officer Signature

The roster of the signatories of the Transportation Agreement is provided below. (Signatures are maintained on file in the NMPC Emergency Preparedness Department).

1. Alabama Power Company
2. Arkansas Power & Light
* 3. Cincinnati Gas & Electric
* 4. Cleveland Electric Illuminating Company
5. Commonwealth Edison
6. Consumers Power Company
7. Detroit Edison Company
8. Duke Power Company
9. Florida Power & Light Company
10. Gulf States Utilities Company
11. Illinois Power Company
12. Indiana & Michigan Electric Company
13. Iowa Electric Light & Power Company
14. Jersey Central Power & Light Company
*15. Kansas Gas & Electric Company
16. Long Island Lighting Company
17. Maine Yankee Atomic Power Company
18. Metropolitan Edison
19. Mississippi Power & Light Company
20. Niagara Mohawk Power Corporation
21. Northeast Utilities
22. Northern States Power Company
23. Pacific Gas & Electric Company
24. Pennsylvania Power & Light
25. Philadelphia Electric Company
26. Portland General Electric Company
27. Public Service Company of Colorado
28. Public Service Company of Indiana
29. Rochester Gas & Electric Corporation
30. South Carolina Electric & Gas Company
31. Southern California Edison Company
32. Tennessee Valley Authority
33. Texas Utilities Generating Company
34. Toledo Edison Company
35. Union Electric Company
36. Vermont Yankee Nuclear Power Company
37. Virginia Electric and Power Company
38. Washington Public Power Supply System
39. Wisconsin Electric Power Company
40. Wisconsin Public Service Company
41. Yankee Atomic Power Company

*New Members

VOLUNTARY ASSISTANCE AGREEMENT
BY AND AMONG
ELECTRICAL UTILITIES INVOLVED IN
TRANSPORTATION OF NUCLEAR MATERIALS

Requesting Company Letterhead

Date _____, 19 ____

(Name and Address of
Responding Company)

This letter confirms the telephone conversation on ___(insert date and time)___ between our _____ and your _____ in which our company requested assistance pursuant to the terms of the Voluntary Assistance Agreement By and Among Electric Utilities Involved in Transportation of Nuclear Materials dated _____, 1982 and your company agreed to provide assistance pursuant to that Agreement.

Please acknowledge your agreement to the foregoing by signing and returning to me the enclosed copy of this letter.

_____
Requesting Company Name and Address

_____
Corporate Officer Signature

_____
Responding Company Name and Address

_____
Corporate Officer Signature and Date

NIAGARA MOHAWK	NUCLEAR TRANSPORTATION ACCIDENT REPORT FORM	FIGURE 1

(EPIP-EPP-24-F1-00)

PART A Instructions: When making notifications of a Nuclear Trans. Accident, read the following statement.

"This is the Nine Mile Point Nuclear Station. This (is/is not) _____ a drill. My name is _____.
This is to report that we have received information of a transportation accident involving a vehicle carrying radioactive materials."
(Provide additional information as requested from the items listed in Part B below.)

PART B Instructions: Complete the following items upon notification of a Nuclear Transportation Accident.

Name of Caller	Date/Time /
Title/Organization	Return Phone No. ( )
Accident Location*	
Nearest Airport	Time of Accident
Nature of Accident ☐ *Highway (i.e. truck, car, etc.)* ☐ *Railway* ☐ *Airplane* ☐ *Other (Explain):* _____	
Special Accident Details *(Mark all appropriate boxes.)* ☐ *Fire* ☐ *Injuries (Explain):* _____ ☐ *Radioactive Material Involved (Type if information available.):* _____ ☐ *Other Hazardous Materials (Types):* _____	
Federal/State/Local Authorities Notified or On-Scene	
Nuclear Station Assistance Requested	
*Name of Shipper**:* *Shipment No.:* *Phone No.: ( )* *Address:* *Contacted:* ☐ *Yes* ☐ *No* *Special Instructions or Information from Shipper:*	
Name of Carrier: *Phone No.: ( )* *Address:* *Contacted:* ☐ *Yes* ☐ *No* *Special Instructions or Information from Carrier:*	
Instructions Given to Caller	
Briefly Record Add'l Important Info.	
Call Received by *(Unit 1 SSS or CSO)*	Time / SSS Notified ☐ *Yes* ☐ *No*

* If accident is located outside NMPC's geographical boundary, ref. to Sect. 8.4 of this proc. for special considerations such as requesting INPO assistance.

** If the shipper is a signatory of the INPO Voluntary Assistance Agreement, refer to Section 8.4 of this procedure for special considerations regarding emergency response either to or from that signatory.

NIAGARA MOHAWK	NUCLEAR TRANSPORTATION ACCIDENT SSS OR CSO CHECKLIST	FIGURE 2

(EPIP-EPP-24-F2-00)

Name ☐ SSS ☐ CSO	Date

Initial / Time

1. Complete the Nuclear Transportation Accident Report Form (Figure 1). ..... ____/____

2. Provide caller with the nature of station response and initial response instructions: ... ____/____

   _____

   _____

   _____

   _____

   _____

3. Designate a Control Room Communications Aide to perform notifications and complete the Control Room Communications Aide Checklist (Figure 3). ..... ____/____

4. Record all significant accident related activities in the Station Log. ..... ____/____

5. If possible, notify the shipper. Obtain information concerning the shipment and record on Figure 1. ..... ____/____

6. If appropriate, report shipper information to the Unit Supervisor RP at the accident scene. ..... ____/____

7. If necessary, contact the INPO Duty Officer to determine if the shipper is an INPO Transportation Agreement signatory. Refer to Section 8.4 of this procedure if the shipper is a signatory. ..... ☐ Yes ☐ No

8. If known, notify the carrier. Obtain information concerning the shipment and record on Figure 1. ..... ____/____

9. If appropriate, report carrier information to the Unit Supervisor RP or the Supervisor Radwaste Operations. ..... ____/____

10. Provide the Unit Supervisor RP at the accident scene with instructions concerning accident response and recovery operations. ..... ____/____

NIAGARA MOHAWK	NUCLEAR TRANSPORTATION ACCIDENT CONTROL ROOM COMMUNICATIONS AID CHECKLIST	FIGURE 3

(EPIP-EPP-24-F3a-00)

Name	Date

Initial / Time

1. Inform the Supervisor Radwaste Operations of the accident by providing the information given in the Nuclear Transportation Accident Report Form (Figure 1, Part A)..... ____/____

   NOTE:
   If the shipment originated from NMPC, contact the Supervisor Radwaste Operations of the unit where the shipment originated, if known. (This will facilitate getting information on the the shipment.) Otherwise contact ONE of the following:

Unit 1 General Supervisor Radwaste	Office:	349-2543
Jack Torbitt, Jr.	Home:	593-2713
	Beeper:	876-1282
Unit 2 General Supervisor Radwaste	Office:	349-4231
Ron Cole	Home:	343-4045

2. Inform Chemistry and Radiation Protection Management using the information given in Figure 1, Part A,through use of the department on-call schedules..... ____/____

3. Contact the Manager RP to request the Supervisor Radwaste Operations and a minimum of one RP Technician report immediately to the accident scene, if appropriate..... ____/____

4. Instruct the Supervisor RP to contact the Unit 1 SSS from the accident scene and provide all pertinent information concerning the incident..... ____/____

5. Provide the Nuclear Security Department with the information given on Figure 1, Part A. Request Security complete notifications in accordance with the Nuclear Transportation Accident Security Checklist (Figure 4)..... ____/____

Nuclear Security Department	349-2401
	Or
	Gaitronics

6. Inform the Oswego County Emergency Management Office (OCEMO) of the accident, providing the information given in Figure 1, Part A..... ____/____

Normal Hours	
Oswego County Emergency Management Office	598-1191
	593-6912
	598-6678 (Telecopy)
	Or
	Radio
Off Hours	
Oswego County Warning Point	343-1313

NUCLEAR TRANSPORTATION ACCIDENT CONTROL ROOM COMMUNICATIONS AID CHECKLIST	FIGURE 3

● Continued ●

Name	Date

Initial / Time

7. Inform the New York State Emergency Management Office (SEMO) of the accident, providing the information given in Figure 1 . . . . . ____/____

NY State Emergency Management Office 518-457-2200
518-457-6811
518-457-9942 *(Telecopy)*

8. Inform the Unit 2 Control Room SSS of the incident, providing the information give in Figure 1, Part A . . . . . ____/____

Unit 2 SSS 349-2170
342-1929
342-3059
349-2168 *(CSO)*

9. When instructed by the SSS, inform the NRC of the accident, providing the information given in Figure 1, Part A . . . . . ____/____

NRC 301-816-5100 *(Main)*
301-951-0550 *(Back-up)*
301-415-0550 *(Second Backup)*
301-816-5151 *(Telecopy)*

10. Inform the NRC Senior Resident Inspector of the accident, providing the information given in Figure 1, Part A . . . . . ____/____

NRC Resident Inspector Office: 349-2529
Office: 342-4041
Pager 716/528-0925

NUCLEAR TRANSPORTATION ACCIDENT SECURITY CHECKLIST	FIGURE 4

Name	Date

Initial / Time

1. Upon being notified of a nuclear transportation accident, complete a copy of the Nuclear Transportation Accident Report Form *(Figure 1)* . . . . . ___/___

2. Inform the Supervisor Environmental Protection of the accident by providing the information given in Figure 1, Part A. . . . . ___/___

   Carey Merritt
   Office: 349-4200
   Home: 298-7490
   Beeper: 876-3169

   OR See Environmental Protection Department On-call Schedule

3. Inform the Manager Nuclear Communications and Public Affairs of the accident by providing the information given in Figure 1, Part A . . . . . ___/___

   Robert Burtch
   Office: 349-7601
   Home: 342-2271
   Beeper: 876-1124

   OR See PACC Department On-call Schedule

4. Notification complete . . . . . ___/___

ENCLOSURE 1

INPO ADDRESS AND TELEPHONE

INSTITUTE OF NUCLEAR POWER OPERATIONS

1100 Circle 75 Parkway
Suite 1500
Atlanta, Georgia 30339
(770) 644-8000

Emergency Phone No.: (800)321-0614

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION

EMERGENCY PLAN MAINTENANCE PROCEDURE

EPMP-EPP-02

REVISION 14

EMERGENCY EQUIPMENT INVENTORIES AND CHECKLISTS

TECHNICAL SPECIFICATION REQUIRED

Approved by:
R. G. Smith — Plant Manager - Unit 1 — Date: 3/19/98

Approved by:
K. A. Dahlberg — Plant Manager - Unit 2 — Date: 3/18/98

Effective Date: 03/31/98

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1.0 PURPOSE

To provide a mechanism for ensuring that emergency equipment necessary to implement the Site Emergency Plan is maintained by all responsible departments.

2.0 PRIMARY RESPONSIBILITIES

ATTACHMENT #	INVENTORY/SURVEILLANCE	RESPONSIBLE BRANCH MANAGER	FREQUENCY M=Monthly Q=Quarterly AR=As Required NR=Not Required
1	Fire Cabinet Inventory	Operations U-1	Q
2	Medical/Rescue Equipment	Operations U-1	Q
3	Stokes Basket/Backboards - Unit 1	Operations U-1	Q
4	Stokes Basket/Backboards - Unit 2	Operations U-1	Q
5	Rescue/Confined Space Rescue Equipment Inventory	Operations U-1	Q
6	Security Bldg Inventory: Ambulance/Fire Kit - Unit 2	Rad Protection	Q
7	Radiation Protection Supplies and Equipment OSC/TSC/Onsite/Downwind	Rad Protection	Q
8	Radiological Monitoring Equipment OSC/TSC/Onsite/Downwind	Rad Protection	Q
8a	Misc Rad Protection Equipment	Rad Protection	Q
9	Rad Protection Supplies and Equipment EOF	Licensing	Q
10	Radiological Monitoring Equipment EOF	Licensing	Q
11	Rad Protection Supplies and Equipment OAA	Licensing	Q
12	Deleted		
13	Oswego Hospital Nuclear Emergency Cabinet Inventory	Licensing	Q
14	Personnel Decontamination Room Supplies Inventory	Rad Protection	Q
15	Deleted		
16	TSC Inventory	Training	Q
17	EOF Inventory	Training	Q
18	Emergency Ventilation Filter Log	Training	Q
19	OSC Inventory	Training	Q
20	JNC Inventory	Training	Q
21	Damage Control Tool Box Inventory	Maintenance/I&C	Q
22	Electric Damage Repair Equipment Inventory	Maintenance	Q
23	Temporary Restoration of Power for PASS Inventory	Maintenance	Q
24	Emergency Response Facility Communication Surveillance	Training	AR
25	Emergency Communications Surveillance Sheets	Training	AR
26	Respiratory Protection Monthly Inspections	Licensing/ Operations/ Rad Protection	M
27	Hazardous Waste and Emergency Spill Response Kit Inventory	Operations U-1	Q
28	Alternate Power Supplies for Portable Air Samplers	Maintenance	Q
29	N2-EOP-6 Tool Box for Bypass at Standby Gas	Operations U-2	Q
30	Emergency Facilities TLD Listing	N/A	NR
31	Emergency TLD Issue Sheet	N/A	AR
32-40	Emergency Facility Status Boards	N/A	NR
41	Quarterly Phone Checks	Training	Q
42	Emergency Key Inventory	Training	Q

2.1 Department Supervisor

Signs the inventory or surveillance for final approval to indicate satisfactory completion and resolution of any identified abnormalities.

2.2 Director Emergency Preparedness

Responsible for ensuring completion and documentation of required inventories and checklists.

3.0 PROCEDURE

3.1 Performing Inventory

NOTE: Inventories or checklists performed by the New York Power Authority, that are determined to be equivalent to NMPC requirements by the Director Emergency Preparedness, shall provide acceptable proof of completion for those equivalent forms found in this procedure. Duplication of effort by NMPC is not required in these cases.

3.1.1 The Emergency Preparedness Department shall ensure emergency equipment inventory checklists are completed by assigned persons and, where required, retained for documentation of the surveillance.

3.1.2 Inventories, unless otherwise specified, should be performed at least once during each quarter and after each use.

a. Post use inventories may be used to satisfy routine inventory requirements and should clearly indicate this on the form as applicable.

b. Equivalent forms may be used for inventories.

3.1.3 "UNSAT" Discrepancies should be corrected, or action initiated by the responsible party to correct them within 3 working days. Resolution of the "UNSAT" discrepancies shall be noted on the checklist.

NOTE: A discrepancy or "UNSAT" condition should not preclude the completion of the checklist.

a. In the case of a discrepancy or an unsatisfactory condition, a note shall be made on the checklist indicating the corrective action taken and date completed.

b. In the case of discrepancies that can not be corrected on the spot (i.e. equipment not in stock and must be ordered) a copy of the completed inventory checklist identifying the discrepancy (where practical) should be included with that Emergency Equipment until such time as the deficiency is resolved or corrected.

c. A second copy of the as-completed inventory checklist (with discrepancies identified) should be sent to the Emergency Preparedness Department.

d. Upon resolution/correction of the discrepancies, the original completed inventory/surveillance form should be sent to Emergency Preparedness in accordance with Step 3.1.7.

e. If N/A (Not Applicable) or N/R (Not Required) is used in this procedure, provide an explanatory note to document the reason.

3.1.4 A complete inventory and inspection should be performed on sealed supplies at least once per year.

3.1.5 Contents of supplies need not be inventoried if:

a. Seal is not broken (except in case of step 3.1.4 above).

b. Opened only to remove equipment for testing, source check, one for one changeouts, etc.

c. Opened to verify specific equipment availability.

d. Used for training and has been restored to pre-class condition.

3.1.6 The entire Emergency Communications System is subject to periodic testing. This shall be accomplished using the instructions in Attachments 24 and 25.

3.1.7 Department Supervisor or designee shall:

a. Ensure corrective actions are initiated promptly and appropriately (See 3.1.3).

b. Ensure discrepancies are resolved satisfactorily.

c. Ensure that any items that may be expiring are ordered or available from stores as needed.

d. Sign the completed surveillance or inventory indicating satisfactory completion and resolution of discrepancies.

e. Forward signed, completed form to the Emergency Preparedness Department within ten working days from the date of Supervisor approval.

3.1.8 The Director Emergency Preparedness or designee shall:

a. Make a determination of the effect discrepancies have on the Site Emergency Plan and ensure appropriate priorities have been assigned to resolution.

b. Initial each "corrective action" for an "Unsat" and add notes as appropriate, prior to signing the form for final approval.

4.0 DEFINITIONS

"Sat" - Satisfactory means an item is available in at least the minimum quantity specified and capable of performing its intended function.

4.0 (Cont)

"Unsat" - Unsatisfactory means an item is not available in at least its minimum quantity, or it is not capable of performing its intended function.

5.0 REFERENCES AND COMMITMENTS

5.1 Technical Specifications

None

5.2 Licensee Documentation

None

5.3 Standards, Regulations, and Codes

5.3.1 NUREG 0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

5.3.2 10CFR50 Appendix E - Emergency Planning and Preparedness for Production and Utilization Facilities

5.3.3 NRC-IE Information Notice 86-97 Emergency Communication System

5.3.4 NRC-IE Information Notice 85-44, Emergency Communication System Monthly Test

5.3.5 NRC Memorandum dated Sept. 18, 1984, RE: Emergency Communication Systems at Licensee Sites

5.4 Policies, Programs, and Procedures

5.4.1 NDD-EPP, Emergency Preparedness

5.4.2 NIP-RMG-01, Records Management

5.4.3 EPMP-EPP-01, Maintenance of Emergency Preparedness

5.4.4 S-RRI-9, Issuing Emergency Kit Dosimetry

5.4.5 S-RPIP-4.4, Maintenance, Inspection, and Testing of Respiratory Protection Equipment

5.4.6 N2-COMP-GEN-W001, Weekly Preventive Maintenance Checklist

5.4.7 NIP-CHE-01, Chemical Control Program

5.5 Commitments

Sequence Number	NCTS Number	Description

None

6.0 RECORD REVIEW AND DISPOSITION

6.1 The following records generated by this procedure shall be maintained by Records Management for the Permanent Plant File in accordance with NIP-RMG-01, Records Management:

- All Inventories, Surveillances, or lists containing signatures indicating completion

ATTACHMENT 1: FIRE CABINET INVENTORY
ATTACHMENT 2: MEDICAL/RESCUE EQUIPMENT
ATTACHMENT 3: STOKES BASKET/BACKBOARDS - UNIT 1
ATTACHMENT 4: STOKES BASKET/BACKBOARDS - UNIT 2
ATTACHMENT 5: RESCUE CABINET INVENTORY
ATTACHMENT 5A: CONFINED SPACE RESCUE EQUIPMENT CABINET INVENTORY
ATTACHMENT 6: SECURITY BUILDING INVENTORY: AMBULANCE AND FIRE KIT UNIT-2
ATTACHMENT 7: RADIATION PROTECTION SUPPLIES AND EQUIPMENT OSC/TSC/ONSITE/DOWNWIND
ATTACHMENT 8: RADIOLOGICAL MONITORING EQUIPMENT OSC/TSC/ON SITE/DOWNWIND
ATTACHMENT 8a: MISC. R.P. EQUIPMENT
ATTACHMENT 9: RADIATION PROTECTION SUPPLIES AND EQUIPMENT EOF
ATTACHMENT 10: RADIOLOGICAL MONITORING EQUIPMENT EOF
ATTACHMENT 11: RADIATION PROTECTION SUPPLIES AND EQUIPMENT OAA
ATTACHMENT 13: OSWEGO HOSPITAL NUCLEAR EMERGENCY CABINET INVENTORY
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ATTACHMENT 25C: EMERGENCY FACILITY COMMUNICATIONS SURVEILLANCE EMERGENCY NOTIFICATION SYSTEM (ENS) TESTING (MONTHLY)
ATTACHMENT 25D: EMERGENCY FACILITY COMMUNICATIONS SURVEILLANCE DEDICATED TELEPHONE TESTING (ANNUALLY)
ATTACHMENT 25E: EMERGENCY FACILITY COMMUNICATIONS SURVEILLANCE RADIO CONSOLE TESTING (ANNUALLY)
ATTACHMENT 25F: EMERGENCY FACILITY COMMUNICATIONS SURVEILLANCE RADIO TESTING (ANNUALLY)
ATTACHMENT 25G: PORTABLE RADIO BATTERY EXCHANGE
ATTACHMENT 26A: RESPIRATORY EQUIPMENT MONTHLY INSPECTION
ATTACHMENT 26B: RESPIRATORY EQUIPMENT MONTHLY INSPECTION
ATTACHMENT 26C: RESPIRATORY EQUIPMENT MONTHLY INSPECTION

6.1 (Cont)

ATTACHMENT 27: HAZARDOUS WASTE AND EMERGENCY SPILL RESPONSE KIT INVENTORY
ATTACHMENT 28: ALTERNATE POWER SUPPLIES FOR PORTABLE AIR SAMPLERS
ATTACHMENT 29: N2-EOP-6 TOOL BOX FOR BY-PASS OF STAND-BY GAS (N2-PM-Q008)
ATTACHMENT 31: EMERGENCY TLD ISSUE SHEET
ATTACHMENT 32: NINE MILE POINT NUCLEAR STATION PROCESS RAD MONITORING BOARD - UNIT 1
ATTACHMENT 33: NINE MILE POINT NUCLEAR STATION PROCESS RAD MONITORING BOARD - UNIT 2
ATTACHMENT 34: NINE MILE POINT NUCLEAR STATION INPLANT SURVEY/SAMPLE STATUS BOARD
ATTACHMENT 35: NINE MILE POINT NUCLEAR STATION DOWNWIND SURVEY/SAMPLE STATUS BOARD
ATTACHMENT 36: NINE MILE POINT NUCLEAR STATION EMERGENCY EVENTS STATUS BOARD
ATTACHMENT 37: NINE MILE POINT NUCLEAR STATION EQUIPMENT SURVEY/SAMPLE STATUS BOARD
ATTACHMENT 38: PLANT STATUS TRENDING BOARD
ATTACHMENT 39: NINE MILE POINT NUCLEAR STATION AREA RAD MONITORS - UNIT 1
ATTACHMENT 40: NINE MILE POINT NUCLEAR STATION AREA RAD MONITORS - UNIT 2
ATTACHMENT 41: EMERGENCY PROCEDURES TELEPHONE NUMBERS QUARTERLY PHONE CHECKS
ATTACHMENT 42: EMERGENCY KEY INVENTORY

6.2 The following records generated by this procedure are not required for retention in the Permanent Plant File:

ATTACHMENT 18: EMERGENCY VENTILATION FILTER LOG

- The following status boards when generated for any other reason than an actual emergency event (i.e., drill, training):

ATTACHMENT 31: EMERGENCY TLD ISSUE SHEET
ATTACHMENT 32: NINE MILE POINT NUCLEAR STATION PROCESS RAD MONITORING BOARD - UNIT 1
ATTACHMENT 33: NINE MILE POINT NUCLEAR STATION PROCESS RAD MONITORING BOARD - UNIT 2
ATTACHMENT 34: NINE MILE POINT NUCLEAR STATION INPLANT SURVEY/SAMPLE STATUS BOARD
ATTACHMENT 35: NINE MILE POINT NUCLEAR STATION DOWNWIND SURVEY/SAMPLE STATUS BOARD
ATTACHMENT 36: NINE MILE POINT NUCLEAR STATION EMERGENCY EVENTS STATUS BOARD
ATTACHMENT 37: NINE MILE POINT NUCLEAR STATION EQUIPMENT SURVEY/SAMPLE STATUS BOARD
ATTACHMENT 38: PLANT STATUS TRENDING BOARD
ATTACHMENT 39: NINE MILE POINT NUCLEAR STATION AREA RAD MONITORS - UNIT 1
ATTACHMENT 40: NINE MILE POINT NUCLEAR STATION AREA RAD MONITORS - UNIT 2

LAST PAGE

ATTACHMENT 1: FIRE CABINET INVENTORY

Location:
___ Unit 1 Turbine Bldg. El. 261, 1st & Bridge
___ Unit 1 Screenhouse El. 261, SW Corner
___ Unit 1 Admin. Bldg. El. 261, Vestibule
___ Unit 2 AP Hall El. 261, East
___ Unit 2 Turbine Bldg. El. 250, South East
___ Unit 2 Screenwell Bldg. El. 261

☐ Quarterly: 1 2 3 4 circle one _____ (year)
☐ Post Drill/ Exercise/Emergency _____ (date)
☐ Other _____

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Action	Date Resolved
	Inventory Sealed		☐	☐		
1.	Fire Axe	(1)	☐	☐		
2.	Wrecking Bar	(1)	☐	☐		
*3.	Portable Hand Light	(5)	☐	☐		
4.	Extension Cord	(1)	☐	☐		
5.	Forcible Entry Tool	(1)	☐	☐		
6.	Bolt Cutters	(1)	☐	☐		
7.	Rescue Belts	(2)	☐	☐		
8.	Life Lines	(2)	☐	☐		
9.	White Turn-out Coat	(1)	☐	☐		
10.	Yellow Turn-out Coat	(4)	☐	☐		
11.	Fire Fighters Gloves	(5)	☐	☐		
12.	Boots	(5)	☐	☐		
13.	Fire Helmet	(5)	☐	☐		
14.	Spare SCBA Bottles	(10)	☐	☐		
15.	Scott Air Packs	(5)	☐	☐		

Misc. Equipment

1.	Exhaust Fan	(1)	☐	☐		
2.	Duct Tubing	(1)	☐	☐		

*Change Batteries Every 24 Months Last Battery Change Date _____

NOTE: If batteries will expire before the next inventory then order or obtain replacements.

Performed by / Date	Supervisor Approval / Date	E.P. Review / Date

ATTACHMENT 2: MEDICAL/RESCUE EQUIPMENT

Location:
__ Unit 1 Turbine Bldg. El. 261, 1st & Bridge
__ Unit 1 Screenhouse El. 261, SW Corner
__ Unit 1 First-Aid Room El. 261
__ Unit 2 AP Hall El. 261, East
__ Unit 2 Turbine Bldg. El. 250, South East
__ Unit 2 Screenwell Bldg. El. 261

☐ Quarterly: 1 2 3 4 circle one
_____ (year)
☐ Post Drill/ Exercise/Emergency
_____ (date)

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
	Inventory Sealed		☐	☐		
Cabinet						
1.	Disposable Blankets	(3)	☐	☐		
2.	Disposable Booties/Gloves	(1 Bag)	☐	☐		
3.	Padded Board Splint Kit	(1)	☐	☐		
4.	Hare Traction Splint	(1)	☐	☐		
5.	Frac-Pack	(1)	☐	☐		
6.*	Mast Pants	(1)	☐	☐		
7.*	Triage Kit	(1)	☐	☐		
8.	Head Immobilizer	(1)	☐	☐		
9.	Med. Cervical Collar	(1)	☐	☐		
10.	Sm. Cervical Collar	(1)	☐	☐		
11.	Lg. Cervical Collar	(1)	☐	☐		
12.	Straps	(3)	☐	☐		
13.	K.E.D. Board	(1)	☐	☐		
14.	Oxygen Kit O_2 Bottle & Regulator Non-Rebreather Mask Bag Valve Mask	(1)	☐	☐		
15.	Infection Control Kit	(4)	☐	☐		
16.*	Stair Chair	(1)	☐	☐		
17.	Trauma Kit	(1)	☐	☐		
	Blood Pressure Cuff	(1)	☐	☐		
	Stethoscope	(1)	☐	☐		
	Kling 6" x 5" Yards	(2)	☐	☐		
	Kling 4" x 5" Yards	(2)	☐	☐		
	Kling 2" x 5" Yards	(2)	☐	☐		
	Pen Light	(2)	☐	☐		
	EMT Scissors	(1)	☐	☐		
	Anti-Bacterial Ointment	(5)	☐	☐		
	Instant Glucose	(1)	☐	☐		
	Ammonia Inhalants	(6)	☐	☐		
	Cotton Tipped Applicators	(4)	☐	☐		
	Oval Eye Pads	(4)	☐	☐		
	Telfa Sterile Pad	(5)	☐	☐		
	2x2 Gauze Pad	(5)	☐	☐		
	3x3 Gauze Pad	(5)	☐	☐		
	4x4 Gauze Pad	(5)	☐	☐		
	Triangular Bandage	(3)	☐	☐		
	Tape 1"	(2)	☐	☐		
	Tape 2"	(1)	☐	☐		
	Tape 3" (Cloth)	(1)	☐	☐		
	Vaseline Gauze	(2)	☐	☐		
	Ace Bandage	(1)	☐	☐		
	Surgi Pad	(4)	☐	☐		
	Trauma Dressing	(2)	☐	☐		
	Sterile Burn Sheets	(2)	☐	☐		
	Ice Packs	(2)	☐	☐		
	PCR's	(2)	☐	☐		
	Safety Pins	(2)	☐	☐		
	Pen	(1)	☐	☐		
	Stop Watch	(1)	☐	☐		
	Extra Latex Gloves	(6 pairs)	☐	☐		
	Butterflys	(5)	☐	☐		
	Band-Aids	(10)	☐	☐		
	Band-Aids extra large	(5)	☐	☐		
	Alcohol Preps	(5)	☐	☐		
	Betadine Preps	(5)	☐	☐		

Performed by / Date Supervisor Approval / Date E.P. Review / Date

*Items not required at U1 Screenhouse, U2 Screenwell, and U2, Turb. Bldg. 250'

ATTACHMENT 3: STOKES BASKET/BACKBOARDS - UNIT 1

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
Inventory Sealed		☐	☐		
1. Turbine 261' by Elevator					
Stokes Basket	(1)	☐	☐		
Backboard, Long	(1)	☐	☐		
2. Screenhouse 261'					
Stokes Basket	(1)	☐	☐		
Backboard, Long	(1)	☐	☐		
3. Admin 261' First Aid Room					
Stokes Basket	(1)	☐	☐		
Backboard, Long	(1)	☐	☐		

NOTE: A satisfactory verification of equipment shall include:

Stokes Basket - Good Condition, Bridle
Backboard - Good Condition, Straps and Immobilizer

_____/_____ _____/_____ _____/_____
Performed by Date Supervisor Approval Date E.P. Review Date

ATTACHMENT 4: STOKES BASKET/BACKBOARDS - UNIT 2

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
	Inventory Sealed		☐	☐		
1.	AP 261'					
	Stokes Basket	(1)	☐	☐		
	Backboard, Long	(1)	☐	☐		
	Backboard, Short	(1)	☐	☐		
2.	Screenwell 261'					
	Stokes Basket	(1)	☐	☐		
	Backboard, Long	(1)	☐	☐		
	Backboard, Short	(1)	☐	☐		
3.	Turbine 250'					
	Stokes Basket	(1)	☐	☐		
	Backboard, Long	(1)	☐	☐		
4.	Emergency Response Vehicle					
	Stokes Basket	(1)	☐	☐		
	Backboard, Long	(1)	☐	☐		
	Backboard, Short	(1)	☐	☐		
5.	Turbine 306' NW					
	Stokes Basket	(1)	☐	☐		
	Backboard	(1)	☐	☐		
	Basket Rigged for Crane	(1)	☐	☐		

_____/_____ _____/_____ _____/_____

Performed by Date Supervisor Approval Date E.P. Review Date

ATTACHMENT 5: RESCUE CABINET INVENTORY

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

Location: Unit 1 G Bldg El. 261' Vestibule

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
	Inventory Sealed		☐	☐		
1.	Crow Bars	(2)	☐	☐		
2.	Boltcutter	(1)	☐	☐		
3.	Hacksaw	(2)	☐	☐		
4.	Burning Torch	(1)	☐	☐		
5.	Come-Along	(1)	☐	☐		
6.	Cable Sling, 3'	(1)	☐	☐		
7.	Cable Sling, 6'	(1)	☐	☐		
8.	Hydraulic Jack, 1 Ton	(1)	☐	☐		
9.	Hydraulic Jack, 5 Ton	(1)	☐	☐		
10.	Sledgehammer, 6#	(1)	☐	☐		
11.	Sledgehammer, 12#	(1)	☐	☐		
12.	Rope 1/2" x 100'	(2)	☐	☐		
13.	Life Lines 100'	(2)	☐	☐		
14.	Forcible Entry Tool	(1)	☐	☐		
15.	Wrecking Bar (5')	(1)	☐	☐		
16.	Box Small Clevis Pins	(1)	☐	☐		

Performed by / Date Supervisor Approval / Date E.P. Review / Date

ATTACHMENT 5A: CONFINED SPACE RESCUE EQUIPMENT CABINET INVENTORY

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

Location: Unit 2 Service Bldg. El. 261 Foam Room

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
	Inventory Sealed		☐	☐		
1.	Tripod	(1)	☐	☐		
2.	Winch	(1)	☐	☐		
3.	4 Point Harness	(2)	☐	☐		
4.	Shock Absorbing Lanyard	(2)	☐	☐		
5.	Rope, ½" x 100'	(2)	☐	☐		
6.	Life Lines, 100'	(2)	☐	☐		

_____ / _____ _____ / _____ _____ / _____

Performed by Date Supervisor Approval Date E.P. Review Date

ATTACHMENT 6: SECURITY BUILDING INVENTORY: AMBULANCE AND FIRE KIT UNIT - 2

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

Location: Security Unit 2

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
	Inventory Sealed		☐	☐		
1.	TLDs with controls and issue sheets	(50)	☐	☐		
2.	Finger Rings with controls	(6)	☐	☐		
3.	Masking Tape 2"	(2 rolls)	☐	☐		
4.	Sealed Sets of PCs	(3)	☐	☐		
5.	Disposable Gloves	(1 box)	☐	☐		
6.	Full Face Respirator with Canister	(3)	☐	☐		
7.	Spare Canisters	(3)	☐	☐		
8.	Bandage Scissors	(2)	☐	☐		
9.	Herculite Green	(1)	☐	☐		
10.	Herculite Yellow or White	(2)	☐	☐		
11.	Clip Board, Pencils	(1)	☐	☐		
12.	Paper Pads	(1)	☐	☐		
13.	Plastic Bags (assorted)	(4)	☐	☐		

_____/_____ _____/_____ _____/_____

Performed by Date Supervisor Approval Date E.P. Review Date

ATTACHMENT 7: RADIATION PROTECTION SUPPLIES AND EQUIPMENT
OSC / TSC / ONSITE / DOWNWIND

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

Location: OSC Storeroom - Unit 1 - Elevation 261'

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
	Inventory Sealed		☐	☐		
PROTECTIVE EQUIPMENT						
1.	Protective Clothing *(complete sealed package)*	(40 sets)	☐	☐		
2.	Full Face Respirator with voice Amplifier and Canister	(40)	☐	☐		
3.	Spare Canisters *(40 Iodine/40 HEPA)*	(80)	☐	☐		
@4.	Flashlights	(30)	☐	☐		
@5.	Extra D-Cell Batteries	(50)	☐	☐		
*6.	KI Tablets *(bottles)* Due Date _____	(12)	☐	☐		
	Inventory Sealed		☐	☐		
SUPPLIES						
1.	PA-235 keys for Post Accident Sampling	(2)	☐	☐		
2.	"P-5" keys to Environmental Stations	(3)	☐	☐		
3.	Key to Softball Field	(1)	☐	☐		
4.	New York State Road Map	(3)	☐	☐		
5.	Rolls of Tape	(20)	☐	☐		
6.	Misc. Plastic Bags		☐	☐		
7.	Disc Smears	(10 bx)	☐	☐		
8.	Maslin Cloth	(10 pkg)	☐	☐		
9.	Extension Cord	(6)	☐	☐		
10.	Latex Gloves	(10 bx)	☐	☐		
11.	Rubber Boots	(6 pr)	☐	☐		
12.	Rain Suits	(6)	☐	☐		
13.	Gym Bags	(10)	☐	☐		
14.	Red Rope *(at least 100')*		☐	☐		
15.	Step off Pads	(4)	☐	☐		
16.	Radiation Material Tags *(paper)*	(40)	☐	☐		
17.	Radiation Signs and Inserts	(3)	☐	☐		
18.	Plastic Booties	(40 pr)	☐	☐		
19.	1/2 Amp Fuse for VAMP	(1)	☐	☐		

@Change batteries every 24 months, last battery change date: _____

*NOTE: If batteries or KI tablets will expire before next inventory then order or obtain replacements.

_____ / _____ Performed by Date

_____ / _____ Supervisor Approval Date

_____ / _____ E.P. Review Date

ATTACHMENT 8: RADIOLOGICAL MONITORING EQUIPMENT
OSC / TSC / ONSITE / DOWNWIND

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

Location: OSC Storeroom - Unit 1 - Elevation 261'

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
	Inventory Sealed		☐	☐		
	EQUIPMENT					
1.	Count Rate Meter	(7)	☐	☐		
2.	Dose Rate Meter *(0-5R/hr)*	(4)	☐	☐		
3.	Dose Rate Meter *(0-50R/hr)*	(6)	☐	☐		
4.	High Range Dose Rate Meter *(0-1000R/hr)*	(6)	☐	☐		
5.	Sealed Silver Zeolite Air Sample Packs 1 Petri Dish 1 Particulate Filter 2 Collection Envelopes	(15)	☐	☐		
6.	Sealed Charcoal Air Sample Packs 1 Petri Dish 1 Particulate Filter 2 Collection Envelopes	(20)	☐	☐		
7.	Radeco AC Air Sampler with Spare Fuse	(10)	☐	☐		
8.	Radeco DC Air Sampler	(3)	☐	☐		
9.	Head for Air Sampler	(10)	☐	☐		
10.	GasTech Meter	(1)	☐	☐		
	DOSIMETRY - Located in Box in Unit 1 RP Office Box Sealed		☐	☐		
1.	TLDs	(50)	☐	☐		
2.	Finger Rings	(40 pr)	☐	☐		
3.	Dosimeters *(0-5R)*	(20)	☐	☐		
4.	Dosimeters *(0-50R)*	(20)	☐	☐		
5.	Dosimeters *(0-200R)*	(5)	☐	☐		
6.	Dosimetry Issue Sheets	(2)	☐	☐		

_____ / _____ _____ / _____ _____ / _____
Performed by Date Supervisor Approval Date E.P. Review Date

ATTACHMENT 8a: MISC. R.P. EQUIPMENT

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
1.	Hand and Foot Monitor *(TSC)*	(2)	☐	☐		
	Serial #: _____					
	Cal. Due: _____					
	Serial #: _____					
	Cal. Due: _____					
2.	PING *(TSC)*	(1)	☐	☐		
	Serial #: _____					
	Cal. Due: _____					
3.	VAMP *(TSC Rad Assessment Room)*	(1)	☐	☐		
	Serial #: _____					
	Cal. Due: _____					
4.	VAMP *(OSC Core)*	(1)	☐	☐		
	Serial #: _____					
	Cal. Due: _____					

_____/_____ _____/_____ _____/_____
Performed by Date Supervisor Approval Date E.P. Review Date

ATTACHMENT 9: RADIATION PROTECTION SUPPLIES AND EQUIPMENT
EOF

☐ Quarterly: 1 2 3 4 circle one
_____ (year)
☐ Post Drill/ Exercise/Emergency
_____ (date)
☐ Other _____

Location: EOF Dock and Storage Area

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
PROTECTIVE EQUIPMENT						
1.	Protective Clothing *(complete sealed package)*	10 sets	☐	☐		
	Inventory Sealed (1-6)		☐	☐		
*1.	Flashlights	4	☐	☐		
*2.	Extra D-Cell Batteries	8	☐	☐		
3.	KI Tablets *(bottles)* Due Date: _____	12	☐	☐		
4.	Sealed Silver Zeolite Air Sample Packs 1 Petri Dish 1 Particulate Filter 2 Collection Envelopes	(6)	☐	☐		
5.	Sealed Charcoal Air Sample Packs 1 Petri Dish 1 Particulate Filter 2 Collection Envelopes	(6)	☐	☐		
6.	Boots	(3 Pair)	☐	☐		
SUPPLIES:						
	Inventory Sealed (1-17)		☐	☐		
1.	Key to Softball Field	(1)	☐	☐		
2.	New York State Road Map	(1)	☐	☐		
3.	Rolls of Tape *(2")*	(4)	☐	☐		
4.	Adhesive Labels	(10)	☐	☐		
5.	Tie Labels	(10)	☐	☐		
6.	Plastic Bag Ties	(10)	☐	☐		
7.	Tape Measure *(100 ft.)*	(1)	☐	☐		
8.	Water Sample Container *(1 gal.)*	(12)	☐	☐		
9.	Grass Clippers	(1)	☐	☐		
10.	Pruning Shears	(1)	☐	☐		
11.	Mallet	(1)	☐	☐		
12.	Magnetic Pocket Compass	(1)	☐	☐		
13.	Twine	(3 rolls)	☐	☐		
14.	Garden Trowel	(1)	☐	☐		
15.	Red Florescent Tape	(1)	☐	☐		
16.	Stakes	(20)	☐	☐		
17.	"P-5" keys to Environmental Stations	(1)	☐	☐		
*18.	Shovels	(2)	☐	☐		
*19.	Rainsuits	(4)	☐	☐		

*Change batteries every 24 months, Last battery change date: _____

* Located outside of sealed kits

NOTE: If batteries or KI tablets will expire before the next inventory, then order or obtain replacements.

_____ / _____ Performed by Date

_____ / _____ Supervisor Approval Date

_____ / _____ E.P. Review Date

ATTACHMENT 10: RADIOLOGICAL MONITORING EQUIPMENT
EOF

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

Location: EOF Dock and Storage Area

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
EQUIPMENT						
1.	Count Rate Meter	(4)	☐	☐		
	Cal Due Date _____ SN: ___					
	_____ SN: ___					
	_____ SN: ___					
	_____ SN: ___					
2.	Dose Rate Meter	(3)	☐	☐		
	Cal Due Date _____ SN: ___					
	_____ SN: ___					
	_____ SN: ___					
3.	Sealed Silver Zeolite Air Sample Packs 1 Petri Dish 1 Particulate Filter 2 Collection Envelopes	(6)	☐	☐		
4.	Sealed Charcoal Air Sample Packs 1 Petri Dish 1 Particulate Filter 2 Collection Envelopes	(6)	☐	☐		
5.	Radeco AC Air Sampler with Spare Fuse	(2)	☐	☐		
	Cal Due Date _____ SN: ___					
	_____ SN: ___					
6.	Radeco DC Air Sampler	(1)	☐	☐		
	Cal Due Date _____ SN: ___					
7.	Head for Air Sampler	(2)	☐	☐		
8.	Check Source *(for meters)*		☐	☐		
9.	High Range Dose Rate Meter *(0-1000R/hr)*	(1)	☐	☐		
	Cal Due Date _____ SN: ___					
[B]10.	Dosimeter Charger	(1)	☐	☐		
DOSIMETRY - Located in one box:						
	Box Sealed		☐	☐		
1.	TLDs	(100)	☐	☐		
2.	Dosimeters *(0-500mr)*	(4)	☐	☐		
3.	Dosimeters *(0-5R)*	(4)	☐	☐		
4.	Dosimeters *(0-50R)*	(4)	☐	☐		
5.	Dosimetry Issue Sheets		☐	☐		

[B]Change batteries every 24 months, Last battery change date:_____

NOTE: If batteries will expire before the next inventory then order or obtain replacements.

_____/_____ _____/_____ _____/_____
Performed by Date Supervisor Approval Date E.P. Review Date

ATTACHMENT 11: RADIATION PROTECTION SUPPLIES AND EQUIPMENT
OFFSITE ASSEMBLY AREA

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

Location: Offsite Assembly Area - Volney Service Center
SUPPLIES and PROTECTIVE EQUIPMENT: Located in sealed drums and footlockers in line crew warehouse

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
	SUPPLIES: In footlocker Inventory Sealed		☐	☐		
1.	Misc. Plastic Bags	(10)	☐	☐		
2.	Disc Smears	(3 bx)	☐	☐		
3.	Muslin Cloth	(3 pkg)	☐	☐		
4.	Extension Cord	(1)	☐	☐		
5.	Surgical Gloves	(3 bx)	☐	☐		
6.	Cotton Liners	(12 pr)	☐	☐		
7.	Gym Bags	(3)	☐	☐		
8.	Rad Rope *(at least 50')*	(50')	☐	☐		
9.	Rad Material Tags	(6)	☐	☐		
10.	Cotton Tip Swabs	(1 pkg)	☐	☐		
11.	Surgical Scrub Brushes	(5)	☐	☐		
12.	Step off Pads	(4)	☐	☐		
13.	Bandage Scissors	(2)	☐	☐		
	Soap bars	(2)	☐	☐		
	Shampoo	(1)	☐	☐		
16.	Pocket Watch	(3)	☐	☐		
17.	Masking Tape	(5 Rolls)	☐	☐		
18.	Material ID Tags	(10)	☐	☐		
*	Empty Yellow Rad Drums	(3)	☐	☐		
	PROTECTIVE EQUIP.: In 55 gal drum					
	Inventory Sealed		☐	☐		
1.	Disposable Coveralls	(1 box)	☐	☐		
2.	Paper Bath Towels	(25)	☐	☐		
3.	Paper Hand Towels	(2 pkg)	☐	☐		
4.	Plastic Shoe Covers	(10)	☐	☐		
5.	Shovels	(2)	☐	☐		
*	Outside footlocker					

Performed by _____ / Date

Supervisor Approval _____ / Date

E.P. Review _____ / Date

ATTACHMENT 12 DELETED.

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ATTACHMENT 13: OSWEGO HOSPITAL NUCLEAR EMERGENCY CABINET INVENTORY

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

Location: Hallway Adjacent to X-Ray Department or closet next to Conference/Radiation Treatment Room

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
1.	Pre-Cut Green Herculite	(1)	☐	☐		
2.	Step-Off Pads	(2)	☐	☐		
3.	Masking Tape	(10)	☐	☐		
4.	Radiation Signs	(10)	☐	☐		
5.	Yellow & Magenta Rope	(3)	☐	☐		
6.	Magnets	(6)	☐	☐		
7.	Yellow Trash Bags	(15)	☐	☐		
[a]8.	Dosimeter Charger *(1 battery & 1 AC)*	(2)	☐	☐		
9.	RMC Sample Taking Kit *(inventory contents IAW Att. G in Hospital Plan)*	(1)	☐	☐		
10.	RMC Decontamination Kit *(inventory contents IAW Att. G in Hospital Plan)*	(1)	☐	☐		
11.	RMC Accident Proc. Poster	(1)	☐	☐		
12.	Sealed Protective Clothing Kits	(10)	☐	☐		
	a. TLD badge Due Date: _____		☐	☐		
	b. *(0-500mR)* Dosimeter Due Date: _____		☐	☐		
	c. *(0-20R)* Dosimeter Due Date: _____		☐	☐		
				☐		
13.	RMC Decontamination Table Top	(1)	☐	☐		
14.	Hose and Nozzle for Decontamination Table Top	(2)	☐	☐		
15.	Yellow Water Receptacles	(2)	☐	☐		
16.	Yellow Trash Receptacles	(2)	☐	☐		
17.	Movable Base for Trash Receptacles	(2)	☐	☐		
18.	Lead Pig	(1)	☐	☐		
19.	White Herculite Matting	(2)	☐	☐		
20.	Portable Stanchion	(1)	☐	☐		
21.	Radiation Tags *(tie)* - misc.	(10)	☐	☐		
22.	Radiation Tags *(adhesive)* - misc.	(10)	☐	☐		
23.	Disc Smears	(50)	☐	☐		
24.	Atomic Wipes	(50)	☐	☐		

[a]Change batteries every 24 months, Last battery change date: _____

NOTE: If batteries will expire before the next inventory then order or obtain replacements.

OSWEGO HOSPITAL NUCLEAR EMERGENCY CABINET INVENTORY

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Received
25.	Count Rate Meter *(NYPA)* Due Date: _____ SN: _____	(1)	☐	☐		
26.	Dose Rate Meter *(NYPA)* *Due Date:* _____ *SN:* _____	(1)	☐	☐		
27.	MS-2 w/HP 210 Probe *(NYPA)* and spare fuses Due Date: _____ SN: _____	(1)	☐	☐		
28.	Extension Cord *(for count rate meter)*	(1)	☐	☐		
29.	Count Rate Meter *(NMPC)* Due Date: _____ SN: _____	(1)	☐	☐		
30.	Dose Rate Meter *(NMPC)* Due Date: _____ SN: _____	(1)	☐	☐		
31.	NMPC Check Source Number: _____	(1)	☐	☐		
32.	Dosimeters *(O-1.5R)(NMPC)*	(5)	☐	☐		
33.	EAP-2, "Personnel Injury *(JAF)* Rev.: _____	(1)	☐	☐		
34.	RP-OPS-02-01, "Personnel Decontamination" *(JAF)* Rev.: _____	(1)	☐	☐		
35.	RP-OPS-02.01, Att. 2 "Decontamination Incident Report" *(JAF)* Rev.: _____	(10)	☐	☐		
36.	RP-INST-02.09 *(JAF)* Rev.: _____	(1)	☐	☐		
37.	Inventory Checklists					
		(1)	☐	☐		
	• SAP-2 (JAF) Rev.: _____	(1)	☐	☐		
	• EPMP-EPP-02 (NMPC) Rev.: _____					
38.	Control TLD *(NMPC)* Due Date: _____	(2)	☐	☐		
39.	Dosimetry Issue Log and *(NMPC)* Cross Reference to Kit #		☐	☐		
40.	The Oswego Hospital Plan for the Decontamination and Treatment of the Radioactively Contaminated Patient *(located at nurses' station)*	(1)	☐	☐		

_____ / _____ _____ / _____ _____ / _____

Performed by Date Supervisor Approval Date E.P. Review Date

ATTACHMENT 14: PERSONNEL DECONTAMINATION ROOM SUPPLIES INVENTORY

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

Location: ☐ Unit 1 OSC *(Storeroom)*
☐ Unit 2 El. 261' ACB

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
	Inventory Sealed		☐	☐		
1.	Coveralls	(6)	☐	☐		
2.	Paper Bath Towels	(6)	☐	☐		
3.	Paper Hand Towels	(6)	☐	☐		
4.	Disposable Gloves	(1 box)	☐	☐		
5.	Assorted Plastic Bags	(6)	☐	☐		
6.	4 x 4 Steri Pads	(1)	☐	☐		
7.	Scissors *(Bandage Type)*	(1)	☐	☐		
8.	Shampoo	(4)	☐	☐		
9.	Shaving Cream	(2)	☐	☐		
10.	Disposable Razors	(1)	☐	☐		
11.	Cotton Swabs	(1 box)	☐	☐		
12.	Surgical Scrub Brushes	(10)	☐	☐		
13.	Masking Tape	(2)	☐	☐		
14.	Sample Envelopes	(6)	☐	☐		
15.	Assorted Radiation/ Contamination Tags	(6)	☐	☐		
16.	Soap	(10)	☐	☐		

Performed by / Date Supervisor Approval / Date E.P. Review / Date

ATTACHMENT 15 DELETED.

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ATTACHMENT 16: TECHNICAL SUPPORT CENTER

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

NOTE: These are suggested locations for these items; however, the material may be found in other areas within the facility.

- All computer equipment is checked by I&C Department Computer Technicians on a monthly basis. See completed Preventative Maintenance Checklist.

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
TSC, COMMUNICATIONS ROOM						
1.	Communicator Headset	(1)	☐	☐		
2.	Telecopier	(1)	☐	☐		
TSC, RADIOLOGICAL ASSESSMENT ROOM						
1.	Maps *(20 mile radius or larger)*	(1)	☐	☐		
2.	Printers:					
	GE TermiNet 200	(1)	☐	☐		
	Genicom 200	(1)	☐	☐		
3.	Digital DecWriter III	(1)	☐	☐		
TSC, CONFERENCE ROOM						
	Diagrams/Drawings:					
	Electrical Diagrams, Unit 1	(1 set)	☐	☐		
	Electrical Diagrams, Unit 2	(1 set)	☐	☐		
	Isometrics, Unit 1	(1 set)	☐	☐		
	Mechanical Diagrams, Unit 2	(1 set)	☐	☐		
	P&IDs, Unit 1	(1 set)	☐	☐		
	P&IDs, Unit 2	(1 set)	☐	☐		
TSC, LIBRARY *(OUTSIDE CORE)*						
1.	Aperture Cards					
	Units 1 & 2	(1 set)	☐	☐		
TSC, TECHNICAL ASSESSMENT ROOM						
1.	Closed Circuit TV	(1)	☐	☐		
2.	Computer Printer Paper	(1 pkg)	☐	☐		
3.	GE Terminet 200 Printer	(1)	☐	☐		
4.	Honeywell Monitors	(1)	☐	☐		
5.	Pump Curve Book, Unit 1	(1)	☐	☐		
6.	Telecopier	(1)	☐	☐		
7.	Telecopier Paper	(1)	☐	☐		
8.	Terminet Printer *(under Honeywell Monitors)*	(1)	☐	☐		

TECHNICAL SUPPORT CENTER

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
TSC, CORE						
1.	Clock	(1)	☐	☐		
2.	Compass Rose *(8½" x 11")*	(1)	☐	☐		
3.	Diagrams/Drawings:					
	Control and Instrument Power Figure IX-2	(1)	☐	☐		
	Electrical Feeds, Unit 1 Area Rad Monitors	(1)	☐	☐		
	Electrical Feeds, Unit 1 Process Rad Monitors	(1)	☐	☐		
	Electrical Power Distribution Diagram	(1)	☐	☐		
	Emergency Operation Procedure *(EOP)* Flow Charts, Unit 2	(1 set)	☐	☐		
	Emergency Operation Procedure *(EOP)* Flow Charts, Unit 1	(1 set)	☐	☐		
	Generalized Station Drawing, Unit 1	(1)	☐	☐		
	Generalized Station Drawing, Unit 2	(1)	☐	☐		
	Reactor Vessel Drawing, Unit 1	(1)	☐	☐		
	Reactor Vessel Drawing, Unit 2	(1)	☐	☐		
	Station Power Distribution Figure IX-1	(1)	☐	☐		
	Emergency Action Levels *(EAL)*, Unit 1	(1)	☐	☐		
	Emergency Action levels *(EAL)*, Unit 2	(1)	☐	☐		
4.	Eating/Drinking/Smoking Is/Is Not Authorized Sign	(1)	☐	☐		
5.	Emergency Classifications Signs: Emergency Class Unusual Event Alert Site Area Emergency General Emergency	(1 each)	☐	☐		
6.	Forms Cabinet	(1)	☐	☐		
7.	Procedure/Documents:					
	Chemistry Surveillance Procedures *(CSP)*, Unit 2	(1)	☐	☐		
	Core Operating Limits Report *(COLR)*	(1)	☐	☐		
	Damage Repair Procedures, *(DRP)*, Unit 1	(1)	☐	☐		
	Emergency Chemistry Procedures *(ECP)*, Unit 1	(1)	☐	☐		
	Emergency Preparedness Implementing Procedures *(EPIP)*	(1)	☐	☐		
	Emergency Preparedness Maintenance Procedures *(EPMP)*	(1)	☐	☐		
	Final Safety Analysis Report *(FSAR)*, Unit 1	(1)	☐	☐		
	Final Safety Analysis Report Appendices & Supplements, Unit 1	(1)	☐	☐		
	Fuel Handling Procedures *(FHP)*, Unit 1	(1)	☐	☐		
	Fuel Handling Procedures *(FHP)*, Unit 2	(1)	☐	☐		
	Generation Administrative Procedures *(GAP)*	(1)	☐	☐		
	INPO Emergency/Resources Manual	(1)	☐	☐		
	New York State Radiological Emergency Plan	(1)	☐	☐		
	NMPC Users Guide Equipment History & Users Manual	(1)	☐	☐		
	Nuclear Interfacing Procedures *(NIP)*	(1)	☐	☐		
	Oswego County Radiation Emergency/Response Plan	(1)	☐	☐		
	Occupational Safety & Health Manual *(SFT)*	(1)	☐	☐		
	Radiation Protection Administrative Procedures (S-RAP)	(1)	☐	☐		
	Radiation Protection Technical & Analytical Procedures *(RTP)*, Unit 1	(1)	☐	☐		
	Radiation Protection Technical & Analytical Procedures *(RTP)*, Unit 2	(1)	☐	☐		
	Radiation Protection Implementing Procedures *(RPIP)*, 2 books	(1)	☐	☐		
	Emergency Action Level Reference Manual	(1)	☐	☐		

ATTACHMENT 16 (Cont)
TECHNICAL SUPPORT CENTER

Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
SC, CORE					
7. Procedure/Documents (Cont)					
Reactor Engineering Procedures (REP), Unit 2	(1)	☐	☐		
Reactor Engineering Surveillance Procedures *(RESP)*, Unit 2	(1)	☐	☐		
Site Chemical Analysis Procedure *(CAP)*	(1)	☐	☐		
Site Emergency Plan *(SEP)*	(1)	☐	☐		
Site Radiation Protection Technical & Analytical Procedures *(RTP)*	(1)	☐	☐		
Special Operating Procedure *(SOP)*, Unit 1	(1)	☐	☐		
Technical Specification Amendment Letters, Unit 1	(1)	☐	☐		
Technical Specification Amendment Letters, Unit 2	(1)	☐	☐		
Technical Specifications, Unit 1	(1)	☐	☐		
Technical Specifications, Unit 2	(1)	☐	☐		
Technical Support Administrative Procedures *(TDP)*	(1)	☐	☐		
Updated Safety Analysis Report *(USAR)*, Unit 2	(1)	☐	☐		
Waste Handling Procedures (WHP)	(1)	☐	☐		
		☐	☐		
8. Release Is/Is Not in Progress Sign	(1)	☐	☐		
9. Status Boards:					
Area Rad Monitor Board, Unit 1	(1)	☐	☐		
Area Rad Monitor Board, Unit 2	(1)	☐	☐		
Downwind Survey Sample Status Board	(1)	☐	☐		
Emergency Events Status Board	(1)	☐	☐		
Equipment/Team Status Board	(1)	☐	☐		
Inplant Survey Board	(1)	☐	☐		
Plant Status Board, Unit 1	(1)	☐	☐		
Plant Status Board, Unit 2	(1)	☐	☐		
Plant Trending Board	(1)	☐	☐		
Process Monitor Status Board, Unit 1	(1)	☐	☐		
Process Monitor Status Board, Unit 2	(1)	☐	☐		
10. 10 Mile Radius Maps:					
Map #1	(1)	☐	☐		
Map #2	(1)	☐	☐		
Map #3	(1)	☐	☐		
Map #4	(1)	☐	☐		
Map #5	(1)	☐	☐		
Map #6	(1)	☐	☐		
Map #7	(1)	☐	☐		
Map #8	(1)	☐	☐		
11. Drafting Table	(1)	☐	☐		
TSC, PROTECTIVE EQUIPMENT ROOM/SUPPLY CABINETS INVENTORY					
1. Calculators	(1)	☐	☐		
2. Cassette Tapes	(2)	☐	☐		
[5]3. Flashlight	(2)	☐	☐		
4. Liquid Cleaner for Status Boards	(1)	☐	☐		
5. Portable Cassette Recorder	(1)	☐	☐		
6. Sleeping Cots *(Collapsible)*	(12)	☐	☐		
[5]7. Batteries	(6 each)	☐	☐		
AA Cell					
C Cell					
D Cell					

[5]Change batteries every 24 months, Last battery change date: _____

NOTE: If batteries will expire before the next inventory then order or obtain replacements.

_____ / _____	_____ / _____	_____ / _____
Performed by Date	Supervisor Approval Date	E.P. Review Date

ATTACHMENT 17: EOF (EMERGENCY OPERATION FACILITY)

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

NOTE: These are suggested locations for these items; however, the material may be found in other areas within the facility.
• All computer equipment is checked by I&C Department Computer Technicians on a monthly basis. See completed Preventative Maintenance Checklist.

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
CORE AREA						
1.	Diagrams/Drawings:					
	Emergency Action Levels *(EAL)*, Unit 1	(1)	☐	☐		
	Emergency Action Levels *(EAL)*, Unit 2	(1)	☐	☐		
2.	Status Boards					
	Downwind Survey/Sample Status Board	(1)	☐	☐		
	Emergency Event Status Board	(1)	☐	☐		
	Plant Status Board Unit 1	(1)	☐	☐		
	Plant Status Board Unit 2	(1)	☐	☐		
	Plant Trending Board	(1)	☐	☐		
3.	Procedures/Documents: (CART)					
	Emergency Preparedness Implementing Procedures *(EPIP)*	(1)	☐	☐		
	Emergency Preparedness Maintenance Procedures *(EPMP)*	(1)	☐	☐		
	Site Emergency Plan *(SEP)*	(2)	☐	☐		
PLANT ASSESSMENT ROOM						
1.	Diagrams/Drawings:					
	Emergency Operation Procedure *(EOP)* Flow Charts, Unit 1	(1 set)	☐	☐		
	Emergency Operation Procedure *(EOP)* Flow Charts, Unit 2	(1 set)	☐	☐		
	Reactor Vessel Drawings, Unit 1	(1)	☐	☐		
	Reactor Vessel Drawings, Unit 2	(1)	☐	☐		
	Emergency Action Levels *(EAL)*, Unit 1	(1)	☐	☐		
	Emergency Action Levels *(EAL)*, Unit 2	(1)	☐	☐		
2.	Procedures/Documents: (BOOKSHELF)					
	Core Operating Limits Report *(COLR)*, Unit 2	(1)	☐	☐		
	Emergency Operation Procedures, Unit 1	(1)	☐	☐		
	Emergency Operation Procedures, Unit 2	(1)	☐	☐		
	Emergency Preparedness Implementing Procedures *(EPIP)*	(1)	☐	☐		
	Emergency Preparedness Maintenance Procedures *(EPMP)*	(1)	☐	☐		
	Final Safety Analysis Report *(FSAR)*, Unit 1	(1)	☐	☐		
	Final Safety Analysis Report *(FSAR)* Supplements with Technical Supplements and Amendments	(1)	☐	☐		
	INPO Resources Manual	(1)	☐	☐		
	Site Emergency Plan *(SEP)*	(1)	☐	☐		
	Special Operating Procedures *(SOP)*, Unit 1	(1)	☐	☐		
	Technical Specification Amendment Letters, Unit 1	(1)	☐	☐		
	Technical Specifications, Unit 1	(1)	☐	☐		
	Technical Specifications, Unit 2	(1)	☐	☐		
3.	Updated Safety Analysis Report *(USAR)*, Unit 2.	(1)	☐	☐		
4.	Forms Cabinet	(1)	☐	☐		

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
DOSE ASSESSMENT ROOM						
1.	Maps with Overlays	(1)	☐	☐		
	10 mile radius	(1)	☐	☐		
	50 mile radius	(1)	☐	☐		
	Map Azimuth Indicator	(1)	☐	☐		
2.	Procedures/Documents:					
	Emergency Preparedness Implementing Procedures *(EPIP)*	(1)	☐	☐		
	Emergency Preparedness Maintenance Procedures *(EPMP)*	(1)	☐	☐		
	Environmental Protection Manual of Protective Action Guides and Protective Actions for Nuclear Incidents *(EPA-400)*	(1)	☐	☐		
	Evacuation Travel Time Estimate	(1)	☐	☐		
	New York State Radiological Emergency Preparedness Plan and Procedures	(1)	☐	☐		
	Oswego County Radiological Emergency Preparedness Plan & Procedures	(1)	☐	☐		

Performed by / Date Supervisor Approval / Date E.P. Review / Date

ATTACHMENT 18: EMERGENCY VENTILATION FILTER LOG

1.0 PROCEDURE

1.1 Determine the time that the emergency ventilation ran during the past quarter.

1.2 Record the time (in hours this quarter) below. Send the sheet to:
John Driscoll
Unit 1 Technical Support

2.0 TSC

Complete the following:

Quarter *(Circle)* 1 2 3 4 Date Checked *(DD/MM/YY)* _____

Checked by: _____ Total Run Time Hours _____

ATTACHMENT 19: OPERATIONS SUPPORT CENTER (OSC)

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
1.	Clocks	(1)	☐	☐		
2.	Drawings/Diagrams:					
	Mechanical P&ID Diagrams	(1 set)	☐	☐		
3.	Forms Cabinet	(1)	☐	☐		
4.	Procedures/Documents:					
	Damage Repair Procedures *(DRP)*	(1)	☐	☐		
	Emergency Preparedness Implementing Procedures *(EPIP)*	(1)	☐	☐		
	Emergency Preparedness Maintenance Procedures *(EPMP)*	(1)	☐	☐		
	Site Emergency Plan (SEP)	(1)	☐	☐		
5.	Emergency Events Status Board	(1)	☐	☐		
6.	Telephones:					
	Outside Line	(1)	☐	☐		
	TSC-Damage Control & Repairs	(1)	☐	☐		
	TSC-Chem & Rad Mgt.	(1)	☐	☐		
	TSC-OSC PA Speaker	(1)	☐	☐		

_____/_____ _____/_____ _____/_____
Performed by Date Supervisor Approval Date E.P. Review Date

ATTACHMENT 20: JOINT NEWS CENTER JNC

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

NOTE: These are suggested locations for these items; however, the material may be found in other areas within the facility.

- All computer equipment is checked by I&C Department Computer Technicians on a monthly basis. See completed Preventative Maintenance Checklist.

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
PRE-BRIEFING AREA						
1.	Poster printers	(2)	☐	☐		
2.	Poster printer paper	(1)	☐	☐		
COUNTY/STATE ROOM						
1.	60-second clock	(1)	☐	☐		
2.	Video Monitor/TV	(1)	☐	☐		
UTILITY ROOM						
1.	Clock	(1)	☐	☐		
2.	Computer(s)	(1)	☐	☐		
3.	Emergency Classification Signs:					
	• Unusual Event	(1)	☐	☐		
	• Alert	(1)	☐	☐		
	• Site Area Emergency	(1)	☐	☐		
	• General Emergency	(1)	☐	☐		
4.	Printers	(1)	☐	☐		
5.	Procedures/Documents:					
	• Emergency Plan Implementing Procedures (EPIP)	(1)	☐	☐		
	• Emergency Plan Maintenance Procedures (EPMP)	(1)	☐	☐		
	• Site Emergency Plan (SEP)	(1)	☐	☐		
	• Emergency Action Level Reference Manual	(1)	☐	☐		
6.	Typewriter	(1)	☐	☐		
7.	Video Monitor/TV	(1)	☐	☐		
8.	Desk-top copier	(1)	☐	☐		
9.	Diskettes	(10)	☐	☐		
10.	Sign-off rubber stamp	(1)	☐	☐		
STORAGE AREA						
1.	Batteries					
	• AA	(6)	☐	☐		
	• C	(6)	☐	☐		
	• D	(6)	☐	☐		
	• 9V	(6)	☐	☐		
2.	Forms:					
	• Plant Status poster (8 1/2 x 11)	(50)	☐	☐		
3.	Misc. Office supplies:					
	• Bulbs (ENX)	(2)	☐	☐		
	• Diskettes	(10)	☐	☐		

ATTACHMENT 20 (Cont)
JOINT NEWS CENTER JNC

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
STORAGE AREA (Continued)						
	• Printer cartridges	(1)	☐	☐		
	• Typewriter ribbons	(1)	☐	☐		
4.	Rubber stamps:					
	• Drill	(1)	☐	☐		
	• Exercise Only	(1)	☐	☐		
	• Reviewed by	(1)	☐	☐		
5.	Telephone headsets	(1)	☐	☐		
COPY ROOM (Supplies may be in storage area)						
1.	Copy Machines	(1)	☐	☐		
2.	Toner	(1)	☐	☐		
3.	Dry ink cartridge	(1)	☐	☐		
4.	Copier paper	(1)	☐	☐		
5.	Telecopy rubber stamp	(1)	☐	☐		
6.	Telecopy machines	(1)	☐	☐		
7.	Telecopier paper	(1)	☐	☐		
NRC/FEMA ROOM						
1.	Clock	(1)	☐	☐		
2.	Typewriter	(1)	☐	☐		
RUMOR CONTROL						
1.	Forms					
	• Media Response Log	(50)	☐	☐		
	• Rumor Control Log	(50)	☐	☐		
2.	Rumor Control Machine	(1)	☐	☐		
3.	Cartridges for Rumor Control Machine	(2)	☐	☐		
4.	Video cassette recorder/monitor	(1)	☐	☐		
MEDIA MONITORING						
1.	Forms					
	• Media Monitoring Log	(50)	☐	☐		
2.	Video Cassette recorders	(1)	☐	☐		
3.	Video monitors	(1)	☐	☐		
4.	Head phones	(1)	☐	☐		
5.	Radios	(1)	☐	☐		
AUDIO VISUAL AREA						
1.	Power Supply/Charger	(1)	☐	☐		
2.	Tripod	(1)	☐	☐		
3.	Audio cassettes	(25)	☐	☐		
4.	Video cassettes	(25)	☐	☐		

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
5.	Overhead projector	(1)	☐	☐		
6.	Slide projector	(1)	☐	☐		
7.	Projection screen	(1)	☐	☐		
8.	RCA color video camera	(1)	☐	☐		
TV BOOTH AREA						
1.	Audio distribution amp	(1)	☐	☐		
2.	Audio mixer	(1)	☐	☐		
3.	Belt pack transmitter	(1)	☐	☐		
4.	Camera remote control	(1)	☐	☐		
5.	Diversity receiver	(1)	☐	☐		
6.	Microphones	(1)	☐	☐		
7.	Multi-box	(1)	☐	☐		
8.	Power amplifier	(1)	☐	☐		
9.	Tripod	(1)	☐	☐		
10.	VHS video recorder	(1)	☐	☐		
11.	Video/audio distribution amp	(1)	☐	☐		
12.	Video camera	(1)	☐	☐		
13.	Video cassette recorders	(3)	☐	☐		
14.	Video date/time generator	(1)	☐	☐		
15.	Video monitor	(1)	☐	☐		
16.	Video switcher	(1)	☐	☐		
REGISTRATION AREA						
1.	Registration Logs:					
	• Blue	(50)	☐	☐		
	• Pink	(50)	☐	☐		
	• Yellow	(50)	☐	☐		
2.	Badge Holders	(200)	☐	☐		
3.	Badges					
	• Blue	(100)	☐	☐		
	• Pink	(100)	☐	☐		
	• Yellow	(100)	☐	☐		
4.	Press Kits:					
	• Nine Mile 1	(10)	☐	☐		
	• Nine Mile 2	(10)	☐	☐		
	• NYPA	(10)	☐	☐		

Performed by / Date Supervisor Approval / Date E.P. Review / Date

ATTACHMENT 21A: DAMAGE CONTROL TOOL BOX INVENTORY (MECHANICAL)

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

Location: Unit 1 Screenhouse

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
	Inventory Sealed		☐	☐		
	MECHANICAL TOOL LISTING					
1.	Hack Saws	(2)	☐	☐		
2.	2' Level	(1)	☐	☐		
3.	Wrecking Bars	(2)	☐	☐		
4.	Crow Bar	(1)	☐	☐		
5.	1/2" Black & Decker Drill	(1)	☐	☐		
6.	1/4" Black & Decker Drill	(1)	☐	☐		
7.	6" C-Clamps	(2)	☐	☐		
8.	6' Wooden Rules	(2)	☐	☐		
9.	2 lb. Slugging Hammer	(1)	☐	☐		
10.	Large Rubber Hammers	(2)	☐	☐		
11.	12 oz. Machinist Hammers	(2)	☐	☐		
12.	16 oz. Machinist Hammers	(2)	☐	☐		
13.	50' Extension Cord	(1)	☐	☐		
14.	25' Extension Cord	(1)	☐	☐		
15.	Low Voltage Lead Light	(1)	☐	☐		
16.	Fluorescent Lights	(2)	☐	☐		
17.	3/4" Socket Set 3/4" to 2"	(1)	☐	☐		
18.	1/16" to 1/2" by 1/64" Drill Indexes	(2)	☐	☐		
19.	18" Adjustable Wrench	(2)	☐	☐		
20.	12" Adjustable Wrench	(4)	☐	☐		
21.	10" Adjustable Wrench	(4)	☐	☐		
22.	7" Vise Grip Pliers	(1)	☐	☐		
23.	10" Vise Grip Pliers	(1)	☐	☐		
24.	1/2 Ton to 3/4 Ton Chain Fall	(1)	☐	☐		
25.	50' Length 1/2" Rope	(1)	☐	☐		
26.	6" Adjustable Wrench	(4)	☐	☐		
27.	Duckbill Snips	(2)	☐	☐		
28.	Straight Snips	(2)	☐	☐		
29.	Regular Standard Pliers	(2)	☐	☐		
30.	Large Channel Lock Pliers	(2)	☐	☐		
31.	Torpedo Levels	(2)	☐	☐		
32.	100' Steel Tape	(1)	☐	☐		
33.	10 lb. Slugging Hammer	(1)	☐	☐		
34.	Screwdriver Set *(Flat and Phillips)*	(1)	☐	☐		
35.	1/2" Socket Set 3/8" to 1 1/4"	(1)	☐	☐		
36.	1/4" Shackles	(2)	☐	☐		
37.	3/8" Shackles	(2)	☐	☐		
38.	1/2" Shackles	(2)	☐	☐		
39.	Allen Wrench Set	(1)	☐	☐		
40.	10" Pipe Wrench	(1)	☐	☐		
41.	14" Pipe Wrench	(1)	☐	☐		
42.	18" Pipe Wrench	(1)	☐	☐		
43.	Inspection Mirror	(1)	☐	☐		
44.	Grey Tape	(2)	☐	☐		
45.	Masking Tape	(2)	☐	☐		
*46.	Nuclear Grade Pipe Sealant Exp. Date: _____	(2)	☐	☐		
47.	Pairs Work Gloves	(4)	☐	☐		
48.	Baling Wire	(1)	☐	☐		

ATTACHMENT 21A (Cont)
DAMAGE CONTROL TOOL BOX INVENTORY (MECHANICAL)

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
MECHANICAL TOOL LISTING (Cont)						
49.	Large Wire Brushes	(2)	☐	☐		
50.	Small Wire Brushes	(2)	☐	☐		
51.	Pair Ear Plugs	(6)	☐	☐		
52.	G.F.I.	(1)	☐	☐		
53.	1" Putty Knife	(1)	☐	☐		
54.	2" Putty Knife	(1)	☐	☐		
55.	24" Pipe Wrench	(1)	☐	☐		
56.	Porta Band Saw	(1)	☐	☐		
57.	5/8" Shackles	(2)	☐	☐		
58.	3/4" Shackles	(1)	☐	☐		
59.	36" Pipe Wrench	(1)	☐	☐		
60.	Nose Bag	(1)	☐	☐		
*61.	Flashlight	(2)	☐	☐		
62.	Never-Seez	(1)	☐	☐		
63.	RTV #106 or equivalent	(1)	☐	☐		

*Change batteries every 24 months, Last battery change date: _____

NOTE: IF batteries or pipe sealant will expire before the next inventory, then order or obtain replacements.

Performed by / Date Supervisor Approval / Date E.P. Review / Date

ATTACHMENT 21B: DAMAGE CONTROL TOOL BOX INVENTORY (I&C)

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

Location: Unit 1 Screenhouse

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
	Inventory Sealed/Locked		☐	☐		
	INSTRUMENTATION AND CONTROL LISTING					
1.	Hand Tool Box	(2)	☐	☐		
*2.	Digital DMM	(1)	☐	☐		
*3.	Test Gauge 0-30 PSI 0.1 Subd.	(1)	☐	☐		
*4.	Test Gauge 0-100 PSI 0.5 Subd.	(1)	☐	☐		
*5.	Digital Pressure Calibrator or equivalents	(1)	☐	☐		
*6.	Fluke Temperature Probe	(1)	☐	☐		
7.	Current Source/Test Set	(1)	☐	☐		
8.	Air Regulators (0-30 psig,0-100 psig,0-300 psig)	(3)	☐	☐		
9.	Meter Test Lead Set	(1)	☐	☐		
10.	Soldering Gun	(1)	☐	☐		
11.	Tubing Cutter	(1)	☐	☐		
12.	Tubing Cutter-Spare Wheel	(1)	☐	☐		
13.	1/4" Tubing Bender	(1)	☐	☐		
14.	Pipe Wrench 6"	(1)	☐	☐		
15.	Pipe Wrench 10"	(1)	☐	☐		
16.	Open/Box End Wrench Set #K-25	(1)	☐	☐		
17.	Nut/Screw Driver Roll Set	(1)	☐	☐		
18.	Adjustable Wrench 4"	(1)	☐	☐		
19.	Adjustable Wrench 6"	(1)	☐	☐		
20.	Adjustable Wrench 8"	(2)	☐	☐		
21.	Adjustable Wrench 10"	(1)	☐	☐		
22.	Vise Grip Plier 7"	(1)	☐	☐		
23.	Channel Loc Plier 7"	(1)	☐	☐		
24.	Channel Loc Plier 10"	(1)	☐	☐		
25.	Wire Stripper/Crimper	(1)	☐	☐		
26.	Needle Nose-Stgt. 5 1/2"	(1)	☐	☐		
27.	Needle Nose-Stgt. 6"	(1)	☐	☐		
28.	Needle Nose-Offset 5 1/2"	(1)	☐	☐		
29.	Needle Nose-Offset 6"	(1)	☐	☐		
30.	Diag. Cutter - 4"	(2)	☐	☐		
31.	Diag. Cutter - 5"	(1)	☐	☐		
32.	Plier/Cutter Combination	(1)	☐	☐		
33.	Holding Tweezers	(1)	☐	☐		
34.	Allen Key Set	(1)	☐	☐		
35.	Hex Socket Driver Set	(1)	☐	☐		
36.	Socket Set - 1/4" Drive	(1)	☐	☐		
37.	Screwdriver-Standard 6"	(1)	☐	☐		
38.	Screwdriver-Standard 4"	(1)	☐	☐		
39.	Screwdriver-Phillips 6"	(1)	☐	☐		
40.	Screwdriver-Phillips 4"	(1)	☐	☐		
41.	Screwdriver-Phillips 3"	(1)	☐	☐		
42.	Screwdriver-Pocket 2"	(1)	☐	☐		
43.	Screwdriver-Holding 3"	(1)	☐	☐		
44.	Screwdriver-Holding 4"	(1)	☐	☐		
45.	Screwdriver-Holding 6"	(1)	☐	☐		
46.	Screwdriver-Holding Combo	(1)	☐	☐		

ATTACHMENT 21B (Cont)
DAMAGE CONTROL TOOL BOX INVENTORY (I&C)

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
INSTRUMENTATION AND CONTROL LISTING (Cont)						
47.	Pocket Rule 6"	(1)	☐	☐		
48.	Examination Mirror 1"	(1)	☐	☐		
49.	Gauge Pointer Puller	(1)	☐	☐		
50.	Alignment Tool (non-conductive screw driver)	(1)	☐	☐		
**51.	Electronic Grade Sil. Rubber, 1 Tube Expiration Date: _____	(1)	☐	☐		
52.	"Snoop" Leak Detector	(1)	☐	☐		
53.	Black Electrical Tape	(1)	☐	☐		
54.	8" Ty-Wraps with Label	(5)	☐	☐		
55.	1/4" Copper Tubing	(50')	☐	☐		
56.	1/4" Tygon Tubing	(50')	☐	☐		
57.	Disposable Surgeons Gloves	(2)	☐	☐		
58.	White Masslin Wipes	(2)	☐	☐		
59.	Surface Prep Cleaner	(1)	☐	☐		
60.	1/4" Whitey Valve SS-IVS4	(1)	☐	☐		
61.	1/4" Whitey Valve B-IVS4	(1)	☐	☐		
62.	Pens, Pencil & Paper Pad		☐	☐		
63.	*Miscellaneous Fittings:*					
	Nuts (1/4" Swagelok)	(20)	☐	☐		
	Inner Ferrules (1/4" Swagelok)	(20)	☐	☐		
	Outer Ferrules (1/4" Swagelok)	(20)	☐	☐		
	1/4" NPT Male x 1/4" Swagelok Union	(12)	☐	☐		
	1/4" NPT Male x 3/8" Swagelok Union	(3)	☐	☐		
	1/4" NPT Male x 1/2" Swagelok Union	(3)	☐	☐		
	1/4" Swagelok Tee's	(3)	☐	☐		
	1/8" NPT Female x 1/4" Swagelok Elbow	(1)	☐	☐		
	1/8" NPT Female x 1/4" Swagelok Union	(1)	☐	☐		
[1]64.	Nitrogen Tank with Cart Hydro Test Date: _____	(1)	☐	☐		
65.	Nitrogen Tank Accessories *(in tool box)*					
**	a. Thread Sealant Expiration Date:_____	(1)	☐	☐		
	b. Regulator: Victor #43781	(1)	☐	☐		
	c. Tubing	(1)	☐	☐		
	d. Adapter Fittings	(1)	☐	☐		
	e. Instructions	(1)	☐	☐		
66.	Thermometer 50°F - 250°F	(1)	☐	☐		
67.	Safety Glasses	(1)	☐	☐		
68.	Test Equipment Power Cord	(1)	☐	☐		
69.	GFI	(1)	☐	☐		

[1]Hydrostatic Testing required at least every 5 years.

*NOTE: These instruments are not maintained in this kit but are available from the Unit 1 Meter and Test issue room.

**If this item will expire before the next inventory, then order or obtain replacements.

Performed by / Date Supervisor Approval / Date E.P. Review / Date

ATTACHMENT 22: ELECTRIC DAMAGE REPAIR EQUIPMENT INVENTORY

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

Location: Unit 1 Storeroom

	Item/Equipment	Sat	Unsat	Corrective Actions	Date Resolved
	Inventory Sealed	☐	☐		
*1.	500 Ft Triplex 4/0 Cu 5 KV Insulated Cable with 1/0 Cu. 5KV Insulated Ground	☐	☐		
*2.	1000 Ft Triplex #2 AWG Cu, 600V Insulated Cable	☐	☐		
3.	20 Ft 1 Conductor #10 SIS Wire	☐	☐		
4.	20 Ft 1 Conductor #12 SIS Wire	☐	☐		
*5.	600 Ft 1 Conductor #4/0	☐	☐		
*6.	600 Ft 1 Conductor #2 AWG	☐	☐		
7.	T35 Tape (min. 12)	☐	☐		
8.	T95 Tape (min. 12)	☐	☐		
9.	3M 88 Tape (min. 12)	☐	☐		
10.	2 Kellems Cable Support Grips Model No. RR250-HE or equivalent	☐	☐		
11.	2 Kellems Cable Support Grips Model No. RR150-HE or equivalent	☐	☐		
12.	8 Burndy Hyline No. YS28, #4/0 Splices or equivalent	☐	☐		
13.	2 Burndy Hyline No. YS2C, #2 Splices or equivalent	☐	☐		
14.	1 Burndy Hylink No. YSM27, Parallel Splices or equivalent	☐	☐		
15.	1 Burndy Hylink No. YSM25, Parallel Splices or equivalent	☐	☐		
16.	3 Burndy Hylug No. YA28-2N 4/0 Terminal or equivalent	☐	☐		
17.	1 Burndy Hylug No. YA25-2N 1/0 Terminal or equivalent	☐	☐		
18.	8 Burndy Hylug No. YA2C-2N #2 Terminal or equivalent	☐	☐		
19.	2 Burndy Reducing Adaptor No. Y2825R or equivalent (4/0 to 1/0)	☐	☐		
20.	2 Burndy Reducing Adaptor No. Y2826R or equivalent (4/0 to 2/0)	☐	☐		
21.	4 Burndy Hylug Ring - Tongue Terminals - No. YAV10-T3 or equivalent	☐	☐		
22.	2 Fuse 6 Amp *(for Powerboard 171 Control Circuit)*	☐	☐		
23.	1 Burndy Hytool Crimping tool MY28 or equivalent	☐	☐		
24.	1 Burndy Crimping Tool MY29-3 or equivalent	☐	☐		
*25.	Breaker Elevator Hand Crank *(GE for Magnet Blast Circuit Breaker)*	☐	☐		

ATTACHMENT 22 (Cont)
ELECTRIC DAMAGE REPAIR EQUIPMENT INVENTORY

	Item/Equipment	Sat	Unsat	Corrective Actions	Date Resolved
26.	Hacksaw and 20 extra blades	☐	☐		
27.	5/8" Ratchet Wrench *(for Breaker Closing Spring Charging)*	☐	☐		
28.	2 sets - Wrenches and Screwdrivers to Cable and Wire Disconnection	☐	☐		
29.	2 sets - Cable Cutting and Splicing Tools	☐	☐		
30.	2 Insulated Fuse Pullers	☐	☐		
31.	3 Sets - Bus Grounding Cables *(Material for 3 sets)*	☐	☐		
32.	Fire Retardant Putty	☐	☐		
33.	4 #12 AWG Ring-Tongue Terminals	☐	☐		
*34.	4 Portable Compressed Air Cylinders	☐	☐		
35.	1/2 x 3/4 NPT Bushing	☐	☐		
36.	3/4 NPT Street E11	☐	☐		
37.	Air Regulator Assembly	☐	☐		
38.	10 Ft High Pressure Air Hose with Swivel Fitting	☐	☐		
*39.	Cable Quad #4 and #6	☐	☐		
40.	Cable Lugs #4 and #6	☐	☐		
*41.	Safety Switch, 600 Volt/200 Amp	☐	☐		
*42.	Portable 60 KW Generator *(located at Building 008 in Level B Storage)*	☐	☐		
*43.	High Pressure Hose *(Jumper R915 and R925 Air Samples)*	☐	☐		

NOTE: * = unsealed inventory. All other equipment is in sealed tool box.

Performed by / Date

Supervisor Approval / Date

E.P. Review / Date

ATTACHMENT 23: TEMPORARY RESTORATION OF POWER FOR POST ACCIDENT SAMPLING INVENTORY

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

Location: Unit 2 Control Building

Item/Equipment	Sat	Unsat	Corrective Actions	Date Resolved
Inventory Sealed	☐	☐		
NOTE: Jumpers are 1/C, No. 12 AWG (NJN-59) (SR) Nominal 4 feet length with lugs (#10 stud)	☐	☐		
1. 6 Jumpers, stored inside Panel 2CES*PNL554, East Wall, Div. I, Cable Spreading Area, El. 237'				
2. Test Box Jumper, per E061A in accordance with DWG. EE-003X Rev. 01, located in North East Corner of Control Room	☐	☐		
3. Located in SSS Office				
a. Key #CAT60 - for 2VBS*PNL102A, 302A, AND 2LAC-PNLU03	☐	☐		
b. Key #11-CH751 - for 2CES*PNL554	☐	☐		

_____/_____ _____/_____ _____/_____
Performed by Date Supervisor Approval Date E.P. Review Date

ATTACHMENT 24: EMERGENCY RESPONSE FACILITY COMMUNICATIONS SURVEILLANCE

1.0 GENERAL GUIDELINES

1.1 Determine the required testing using the matrix in Section 2.0.

1.2 Perform the testing of each communications system in accordance with the associated attachment.

1.3 The surveillance is considered successful if all "Sat" boxes are checked.

1.4 Initiate corrective actions on all "Unsat" entries in accordance with Step 3.0.

a. Record details of failure and initiated corrective actions in appropriate "Remarks" section.

b. After repair/correction, perform surveillance (only with agency that was "Unsat") and record on new attachment.

2.0 REQUIRED TESTING FREQUENCY

	RECS	Commercial Telephone	ENS Telephone	Dedicated Line	Radio *(Console)*	Radio *(Portable)*
Unit 1 Control Room	M	M	M	A	A	
Unit 2 Control Room	M	M	M	A	A	
EOF	M	*M	*M	A	A	A
OSC					A	A
TSC		M	M	A	A	
JNC		M		A		

M = Monthly A = Annually
* PERFORMED BY NYPA

3.0 REPORTING PROBLEMS

3.1 Radiological Emergency Communication System (RECS) Failure

Report all failures to 518-457-2200 during the hours of 9 am to 4 pm.

3.2 Radio Failures

Contact the Central Region Communications Group at 460-2378 or 460-2379.

3.3 Commercial Telephone and Dedicated Lines

Complete a "Telephone Request Form" and fax to Facilities in accordance with the instructions on the form.

NOTE: With a Dedicated Line, use the "Circuit Number" in place at the "Extension" number on the "Telephone Request Form".

3.4 ENS Telephones

a. Immediately report any "Unsat" results as follows:

Failure Location	Report to:
Control Room, Unit 1	Unit 1 SSS
Control Room, Unit 2	Unit 2 SSS
Both TSC ENS Phones	Unit 1 SSS

b. Report failure to NRC Operations Center at one of the following numbers.

- (301) 816-5100
- (301) 951-0550

c. IF requested by the NRC Operations Center, call NYNEX, (315) 479-2161, for assistance.

ATTACHMENT 25A: EMERGENCY RESPONSE FACILITY COMMUNICATIONS SURVEILLANCE

RADIOLOGICAL EMERGENCY COMMUNICATIONS SYSTEM (RECS) TESTING (MONTHLY)

1.0 PROCEDURE

1.1 Pick up the handset and dial A*.

NOTE: Depress push to talk switch in the handset to talk.

1.2 After about 15 seconds state the following:

"This is a test. This is the Nine Mile Point *(location)* calling all stations for a RECS test. Stand by for roll call."

1.3 State each agencies name as they appear on the RECS Testing Sheet. As each agency responds, check "Sat" or "Unsat".

NOTE: "Sat" = agency responded without comment
"Unsat" = anything beside "Sat" response

1.4 Repeat Step 1.3 for any agency not answering roll call.

1.5 When roll call is completed, state:

"This concludes the test. Thank you."

1.6 Should an agency fail to answer, contact them by telephone, and if necessary, repeat Steps 1.1 through 1.3 for the problem agency only.

RECS TESTING SHEET

Month _____ Year _____

Agency	Telephone #	Tested From		Remarks
		Unit 1 CR	Unit 2 CR	
Nine Mile Point Unit 1 CR	349-2480	N/A	☐ Sat ☐ Unsat	
Nine Mile Point Unit 2 CR	349-2170	☐ Sat ☐ Unsat	N/A	
Fitzpatrick CR	349-6666	☐ Sat ☐ Unsat	☐ Sat ☐ Unsat	
Oswego County 911 Center	911	☐ Sat ☐ Unsat	☐ Sat ☐ Unsat	
Oswego County EOC	598-1191	☐ Sat ☐ Unsat	☐ Sat ☐ Unsat	
NYS Warning Point	(518) 457-2200	☐ Sat ☐ Unsat	☐ Sat ☐ Unsat	
EOF	593-5735	☐ Sat ☐ Unsat	☐ Sat ☐ Unsat	
Tested by: Initials/Date				

_____ / _____
Supervisor Approval Date

_____ / _____
E.P Review Date

ATTACHMENT 25B: EMERGENCY FACILITY COMMUNICATIONS SURVEILLANCE
COMMERCIAL TELEPHONE TESTING (MONTHLY)

1.0 PROCEDURE

1.1 For each "Location" listed, test the telephone by placing and receiving a call to any other telephone.

1.2 Check to "Sat" or "Unsat" box on the "Commercial Telephone Testing Sheet".

NOTE: "Sat" = satisfactory transmission and reception
"Unsat" = anything but "Sat" response

COMMERCIAL TELEPHONE TESTING SHEET

Month _____ Year _____

Location	Telephone #	Results	Remarks	Tested by Initials/Date
EOF Comm Area	593-5875	☐ Sat ☐ Unsat		
TSC Comm Rm	349-2487	☐ Sat ☐ Unsat		
Offsite Assembly Area	592-0125 no test required[1]	----------	----------	----------
Unit 1 Control Room	no test required[1]	----------	----------	----------
Unit 2 Control Room	no test required[1]	----------	----------	----------
Joint News Center	592-3720 in Rumor Control)	☐ Sat ☐ Unsat		

[1]No test is required from the Control Rooms or Offsite Assembly Area since their telephones are used regularly.

_____ / _____
Supervisor Approval Date

_____ / _____
E.P Review Date

ATTACHMENT 25C: EMERGENCY FACILITY COMMUNICATIONS SURVEILLANCE

EMERGENCY NOTIFICATION SYSTEM (ENS) TESTING (MONTHLY)

1.0 PROCEDURE

1.1 For Control Rooms

a. Solicit the time of the daily plant operations status call from the NRC Operations Center to the Control Room from the SSS.

b. Record "Sat" or "Unsat" on the ENS Testing Sheet.

NOTE: "Sat" = satisfactory transmission and reception
"Unsat = anything beside "Sat" response

1.2 For TSC

a. Verify the operability at each ENS phone listed on the ENS Testing Sheet by placing and receiving a call from any other ENS phone.

b. Record "Sat" or "Unsat" on the ENS Testing Sheet.

NOTE: "Sat" = satisfactory transmission and reception
"Unsat" = anything besides "Sat" response

ATTACHMENT 25C (Cont)
EMERGENCY FACILITY COMMUNICATIONS SURVEILLANCE

ENS TELEPHONE TESTING SHEET

Month _____ Year _____

CONTROL ROOM UNIT 1

Daily Operations Status Call: Date _____ Time *(24 Hour)* _____ ☐ Sat ☐ Unsat

CONTROL ROOM UNIT 2

Daily Operations Status Call: Date _____ Time *(24 Hour)* _____ ☐ Sat ☐ Unsat

TSC

Phone	Phone No.	Location	Sat	Unsat	Remarks
ENS	700-371-5324	NRC Room	☐	☐	
ENS	700-371-5324	Tech Assessment Room	☐	☐	
HPN	700-371-5329	NRC Room	☐	☐	
HPN	700-371-5329	RAM Desk	☐	☐	
PMCL	700-371-5326	NRC Core	☐	☐	
SCL	700-371-5327	NRC Core	☐	☐	
MCL	700-371-5323	NRC Room	☐	☐	

TESTED BY: Initials/Date _____ / _____

NOTE: EOF testing completed by NYPA.

_____ / _____ _____ / _____
Supervisor Approval Date E. P. Review Date

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ATTACHMENT 25D: EMERGENCY FACILITY COMMUNICATIONS SURVEILLANCE

DEDICATED TELEPHONE TESTING (ANNUALLY)

1.0 PROCEDURE

1.1 The dedicated line will automatically ring or flash the other end when the handset is lifted.

1.2 Verify that someone is available at the other end to test.

1.3 Verify proper operation by initiating, receiving, and transmitting from each end of each line listed on the "Dedicated Telephone Testing Sheet".

1.4 As each line is tested, mark "Sat" or "Unsat" on the Testing Sheet.

NOTE: "Sat" = proper initiating, receiving, and transmitting from each end
"Unsat" = anything other than "Sat"

ATTACHMENT 25D (Cont)
EMERGENCY FACILITY COMMUNICATIONS SURVEILLANCE

DEDICATED TELEPHONE TESTING SHEET

Year _____

UNIT 1 CONTROL ROOM

E.D. Hotline 36 LCGL 199800	☐ Sat	☐ Unsat
CR#1-TSC #63PLNT22750	☐ Sat	☐ Unsat
CR#1-JAF C.R. #63PLNA28109	☐ Sat	☐ Unsat
Tech Info Line 63 PLNA 37227	☐ Sat	☐ Unsat

Remarks: _____

TESTED BY: Initials/Date _____ / _____

UNIT 2 CONTROL ROOM

CR#2-TSC SED	☐ Sat	☐ Unsat
E.D. Hotline 36 LCGL 199800	☐ Sat	☐ Unsat
CR#2-JAF C.R. #63PLNA34299	☐ Sat	☐ Unsat
Tech Info Line 63 PLNA 37227	☐ Sat	☐ Unsat

Remarks: _____

TESTED BY: Initials/Date _____ / _____

EOF

Tech Info Line 63 PLNA 37227	☐ Sat	☐ Unsat
E.D. Hotline 36 LCGL 199800	☐ Sat	☐ Unsat
CED/SED Hotline 63 PLNA 37200	☐ Sat	☐ Unsat

Remarks: _____

TESTED BY: Initials/Date _____ / _____

TSC

Tech Info Line 63 PLNA 37227	☐ Sat	☐ Unsat
E.D. Hotline 36 CGL 199800	☐ Sat	☐ Unsat
TSC-EOF Security #63 PL-16919	☐ Sat	☐ Unsat
TSC-OSC I&C Coord. #63 PL-16969	☐ Sat	☐ Unsat
TSC-OSC SSST Coord. #63 PL-16918	☐ Sat	☐ Unsat
CED/SED Hotline 63 PLNA 37200	☐ Sat	☐ Unsat
TSC-CR# 1 S.E.D. #63 PLNT 22750	☐ Sat	☐ Unsat
TSC-CR# 2 S.E.D.	☐ Sat	☐ Unsat
TSC-JAF/CR (U1) #63PLNA28109	☐ Sat	☐ Unsat
TSC-JAF/CR (U2) #63LADA34299	☐ Sat	☐ Unsat

Remarks: _____

TESTED BY: Initials/Date _____ / _____

JNC

Tech Info Line 63 PLNA 37227	☐ Sat	☐ Unsat

Remarks: _____

TESTED BY: Initials/Date _____ / _____

OSC

OSC Chem/RP - TSC #63 PL-16918	☐ Sat	☐ Unsat
OSC Damage Ctrl - TSC Maint Coord. #63 PL-16969	☐ Sat	☐ Unsat

Remarks: _____

TESTED BY: Initials/Date _____ / _____

_____ / _____ _____ / _____

Supervisor Approval Date E. P. Review Date

ATTACHMENT 25E: EMERGENCY FACILITY COMMUNICATIONS SURVEILLANCE

RADIO CONSOLE TESTING (ANNUALLY)

1.0 PROCEDURE

1.1 Testing from the TSC, Unit 1 or Unit 2 Control Room

a. Turn the volume knob on the Select Audio speaker to the twelve o'clock position.

b. Depress the "Volume" button on the "Rad/Teams" module until the light next to "full" is lit.

c. Utilizing a person equipped with an EP portable radio, verify the selected channel, and depress the "Transmit" button and give a short test message to the portable radio.

d. Repeat Steps a through c for all required channels as per the Radio Console Testing Sheet.

e. Record "Sat" or "Unsat" on the Testing Sheet.

NOTE: "Sat" = satisfactory transmit and receive
"Unsat" = anything beside "Sat" response

1.2 Testing from the EOF

a. Turn the volume knob to the twelve o'clock position.

b. Select channel to be tested using the up-arrow or down-arrow buttons until the desired channel number is displayed.

c. Utilizing a person equipped with an E.P. Portable Radio, on the same channel, depress the "transmit" bar on the microphone and give a short test message to the portable radio.

d. Repeat steps a through c for all required channels, as per the Radio Console Testing Sheet.

e. Record "SAT" or "UNSAT" on the Testing Sheet using the criteria in 1.1.e.

ATTACHMENT 25E (Cont)
EMERGENCY FACILITY COMMUNICATIONS SURVEILLANCE

RADIO CONSOLE TESTING SHEET

Year _____

TESTED FROM	CHANNEL					TESTED BY-INIT/DATE
Unit 1 Control Room *(one console only)*	Admin ☐ Sat ☐ Unsat	Rad Teams ☐ Sat ☐ Unsat				
Unit 2 Control Room *(one console only)*	Admin ☐ Sat ☐ Unsat	Rad Teams ☐ Sat ☐ Unsat				
EOF *(Rad Assmt Rm only)*	Admin ☐ Sat ☐ Unsat	Rad Teams ☐ Sat ☐ Unsat				
TSC *(Rad Assmt Rm only)*	Admin ☐ Sat ☐ Unsat	U1 Fire ☐ Sat ☐ Unsat	U2 RP ☐ Sat ☐ Unsat	U2 Maint ☐ Sat ☐ Unsat	U2 Fire ☐ Sat ☐ Unsat	
OSC		U1 Fire ☐ Sat ☐ Unsat	U2 RP ☐ Sat ☐ Unsat	U2 Maint ☐ Sat ☐ Unsat	U2 Fire ☐ Sat ☐ Unsat	

Remarks: _____

_____

_____

_____

_____

_____

_____

_____ / _____ _____ / _____

Supervisor Approval Date E. P. Review Date

ATTACHMENT 25F: EMERGENCY FACILITY COMMUNICATIONS SURVEILLANCE

PORTABLE RADIO TESTING (ANNUALLY)

1.0 PROCEDURE

1.1 Portable radios are tested by calling another radio and having another radio call back.

1.2 Turn on the radios to be tested and select any available onsite channel.

1.3 Transmit a short test message. Verify transmission on another radio.

1.4 On the other radio, transmit a short test message. Verify reception on the other radio.

1.5 Check "Sat" or "Unsat" on the Portable Radio Testing Sheet.

NOTE: "Sat" = proper receive and transmit
"Unsat" = anything beside "Sat" response

ATTACHMENT 25F (Cont)
EMERGENCY FACILITY COMMUNICATIONS SURVEILLANCE

PORTABLE RADIO TESTING SHEET

Year _____

	ITEM		SAT	UNSAT
1.	OSC Core			
		HT-# _____	☐	☐
		HT-# _____	☐	☐
		HT-# _____	☐	☐
		HT-# _____	☐	☐
		HT-# _____	☐	☐
2.	OSC Storeroom			
	Habitability	HT-# _____	☐	☐
	PAS Sample	HT-# _____	☐	☐
	PAS Analysis	HT-# _____	☐	☐
	Downwind B	HT-# _____	☐	☐
	Downwind C	HT-# _____	☐	☐
	Inplant 1	HT-# _____	☐	☐
	Inplant 2	HT-# _____	☐	☐
	Inplant 3	HT-# _____	☐	☐
	Inplant 4	HT-# _____	☐	☐
	Inplant 5	HT-# _____	☐	☐
	OSC Spares	HT-# _____	☐	☐
		HT-# _____	☐	☐
		HT-# _____	☐	☐
3.	RP Fire Response			
	Unit 1 *(TB 248')*	HT-# _____	☐	☐
	Unit 2 *(RB ACB)*	HT-# _____	☐	☐
4.	Offsite Assembly Area Facility *(OAA)*			
	Offsite	HT-# _____		
	Offsite	HT-# _____	☐	☐
	Offsite	HT-# _____	☐	☐
			☐	☐
5.	Emergency Operation Facility *(EOF)*			
	Offsite	HT-# _____	☐	☐
	Offsite	HT-# _____	☐	☐
	Offsite	HT-# _____		
6.	Joint News Center *(JNC)*	HT-# _____	☐	☐
7.	Vehicles			
	Env. Prot #5-243 or _____		☐	☐
	EP #2-1077 or _____		☐	☐
	EP #5-484 or _____		☐	☐

TESTED BY: Initials/Date _____ / _____

_____ / _____ _____ / _____

Supervisor Approval Date E. P. Review Date

ATTACHMENT 25G: PORTABLE RADIO BATTERY EXCHANGE (QUARTERLY)

NOTE: One week prior to this test, request replacement batteries from the Radio Shop in sufficient quantities to accommodate all HTs listed in Attachment 25F.

1.0 PROCEDURE

1.1 Remove the battery attached to the portable radio.

1.2 Obtain a replacement battery and verify the date to be less than 3 months old.

1.3 Attach the replacement battery to the portable radio.

1.4 Replace portable radio in charger.

1.5 When all batteries are replaced:

a. Complete "Portable Radio Battery Exchange Sheet"

b. Send old batteries to Radio Shop.

Portable radio battery exchange completed for the _____ quarter of _____ (year)

Remarks: _____

_____

_____

Exchange Performed By: Initials/Date ___/_____

_____/_____ _____/_____

Supervisor Approval Date E.P. Review Date

ATTACHMENT 26A: RESPIRATORY EQUIPMENT MONTHLY INSPECTION

☐ Month_____ ☐ Post Drill/Exercise/Emergency ☐ Other:

	Use	Onsite Location	No. Resp./No Canister	Canister Due Date	Voice Amp Bat Due Date	Sat	Unsat
1.	Ambulance and Fire	U2 Security ACR	3/3			☐	☐
2.	Security Building Emergency	U1 Sec Gun Locker	8/8 (2/2)			☐	☐
3.	Security Building Emergency	U2 Sec Gun Locker	8/8			☐	☐
4.	Control Room	U2 Control Building 306'	10/10			☐	☐
5.	R.P. Supplies & Equipment	U1 Storeroom	40/80			☐	☐
6.	Post Accident Sampling	U1 Storeroom	MSA Duo-Flow Respirator	4 Systems		☐	☐

Performed By	Date
Details/Items Resolved	

Supervisor Approval / Date

E. P. Review / Date

ATTACHMENT 26B: RESPIRATORY EQUIPMENT MONTHLY INSPECTION

☐ Month_____	☐ Post Drill/Exercise/Emergency	☐ Other:

	Use	Offsite Location	No. Resp./No Canister	Canister Due Date	Sat	Unsat
1.	R.P. Supplies & Equipment	EOF	10/20		☐	☐

Performed By	Date
Details/Items Resolved	

Supervisor Approval / Date

E. P. Review / Date

ATTACHMENT 26C: RESPIRATORY EQUIPMENT MONTHLY INSPECTION SCOTT PAK

☐ Month_____	☐ Post Drill/Exercise/Emergency_____ Date	☐ Other:

Inspection completed per S-RPIP-4.4

Verified by _____ Date _____

	Locations	Inspection Completed by	Date
1.	Unit 1 Control Room 277' *(Scott Pak's and Tanks)*	Name: Signature:	
2.	Unit 1 Turbine Building 261' *(Scott Pak's and Tanks)*	Name: Signature:	
3.	Unit 1 Screen House 261' *(Scott Pak's and Tanks)*	Name: Signature:	
4.	Unit 1 Admin Building 261' *(Scott Pak's and Tanks)*	Name: Signature:	
5.	Unit 1 Store Room 261' (Spares) *(Scott Pak's and Tanks)*	Name: Signature:	
6.	Unit 2 Control Room 306' *(Scott Pak's and Tanks)*	Name: Signature:	
7.	Unit 2 Turbine Building 250' *(Scott Pak's and Tanks)*	Name: Signature:	
8.	Unit 2 Screenwell 261' *(Scott Pak's and Tanks)*	Name: Signature:	
9.	Unit 2 Access Passage 261' *(Scott Pak's and Tanks)*	Name: Signature:	
10.	Emergency Response Vehicle 32-7-1 *(Scott Pak's and Tanks)*	Name: Signature:	

Supervisor Fire Protection	Date
Details/Items Resolved	

Supervisor Approval _____ / Date _____ E. P. Review _____ / Date _____

ATTACHMENT 27: HAZARDOUS WASTE AND EMERGENCY SPILL RESPONSE KIT INVENTORY

Location: ___ Unit 1, T.B., 261
___ Unit 1/2, Passageway

☐ Quarterly: 1 2 3 4 circle one
_____ (year)
☐ Post Drill/ Exercise/Emergency
_____ (date)
☐ Other _____

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
	Inventory Sealed		☐	☐		
	Garment Storage Locker					
1.	Chemical Splash Goggles	(3)	☐	☐		
2.	Chemical Splash Shields	(3)	☐	☐		
3.	Chemical Resistant Gloves	(3 pr)	☐	☐		
	Inventory Sealed		☐	☐		
	All Purpose Safety Equip. Storage Locker					
1.	Chemical Splash Suits *(packaged)* (2) SM, (2) MED, & (1) LG	(5)	☐	☐		
2.	Chemical Splash Goggles	(5)	☐	☐		
3.	Chemical Face Shields	(5)	☐	☐		
4.	Chemical Resistant Gloves	(5 pr)	☐	☐		
5.	Duct Tape	(2 rolls)	☐	☐		
6.	Blank "Danger" Signs	(10)	☐	☐		
7.	Floor Stand Signs "Danger Chemical Spill - Keep Away"	(3)	☐	☐		
8.	Reeled Barrier Tape					
	"Caution Chemical Spill"	(3)	☐	☐		
	"Caution - Do not Enter"	(3)	☐	☐		
9.	Acid Neutralization Kit	(1)	☐	☐		
10.	Caustic Neutralization Kit	(1)	☐	☐		
11.	Solvent Neutralization Kit	(1)	☐	☐		
12.	Absorbants *(contains: pillows/blankets/absorbants)*	(1 Drum)	☐	☐		
13.	Plug Kit	(1)	☐	☐		
14.	2 Wheel Hand Cart	(1)	☐	☐		

Performed by / Date Supervisor Approval / Date E.P. Review / Date

ATTACHMENT 28: ALTERNATE POWER SUPPLIES FOR PORTABLE AIR SAMPLERS

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

EMERGENCY VEHICLE A. C. INVERTERS

Vehicle Number	Operation:	Sat	Unsat
A.	#2-1077 *(Emergency Preparedness)*	☐	☐
B.	#5-484 *(Emergency Preparedness)*	☐	☐
C.	Other_____		
D.	Other_____		

NOTE: Perform test with vehicle operating, using an AC-High Volume Air Sampler and run for 5 minutes.

DETAILS/ITEMS RESOLVED	By	Date
Performed By		

_____ / _____ _____ / _____
Supervisor Approval Date E. P. Review Date

ATTACHMENT 29: N2-EOP-6 TOOL BOX FOR BY-PASS OF STAND-BY GAS (N2-PM-0008)

☐ Quarterly: 1 2 3 4
circle one
_____ (year)
☐ Post Drill/
Exercise/Emergency
_____ (date)
☐ Other _____

Location: EOP Box El. 261' under stairway off the Rx. Track Bay

	Item/Equipment	Min. Qty	Sat	Unsat	Corrective Actions	Date Resolved
	Inventory Sealed		☐	☐		
1.	1" Nylon Sling 6 ft. long	(1)	☐	☐		
2.	2" Nylon Sling 8 ft. long	(1)	☐	☐		
3.	2" Nylon Sling 10 ft. long	(1)	☐	☐		
4.	Two Ton - Ten foot Chain Falls	(2)	☐	☐		
5.	5/8" Shackles	(2)	☐	☐		
6.	3/8" Shackles	(1)	☐	☐		
7.	3/4" Shackle	(1)	☐	☐		
8.	3/8" Nut Drivers	(2)	☐	☐		
9.	5/16" Nut Drivers	(1)	☐	☐		
10.	1/4" Nut Drivers	(1)	☐	☐		
11.	1/4" Rachet, 1/4 Drive	(1)	☐	☐		
12.	1/4" Breaker Bar, 1/4 Drive	(1)	☐	☐		
13.	1/4" Socket, 1/4 Drive	(1)	☐	☐		
14.	7/16 Socket, 1/4 Drive	(2)	☐	☐		
15.	7/16 Deep Well Socket, 1/4 Drive	(1)	☐	☐		
16.	3/8 Socket, 1/4 Drive	(1)	☐	☐		
17.	5/16 Socket, 1/4 Drive	(1)	☐	☐		
18.	12" Extension, 1/4 Drive	(1)	☐	☐		
19.	Pry Bar	(1)	☐	☐		
20.	1-13/16 Combo Wrenches	(2)	☐	☐		
21.	1-1/2 Combo Wrenches	(2)	☐	☐		
22.	1-1/4 Combo Wrenches	(2)	☐	☐		
23.	7/8 Combo Wrenches	(2)	☐	☐		
24.	Flanges	(2)	☐	☐		
25.	Flexitallic Gaskets	(2)	☐	☐		

Performed by / Date | Supervisor Approval / Date | E.P. Review / Date

ATTACHMENT 30: EMERGENCY FACILITIES TLD LISTING

		Quantity	Control
Rad Monitoring Equipment *(OSC/TSC/Onsite/Downwind)*			
In Box for U-1 RP Office:			
1.	Whole Body *(TLD)*	(50)	(2)
2.	Extremity *(Rings)*	(40 pr)	(1 pr)
3.	Dosimeters *(0-5R)*	(20)	
4.	Dosimeters *(0-50R)*	(20)	
5.	Dosimeters *(0-200R)*	(5)	
6.	Dosimetry Issue Sheets	(2)	
Rad Monitoring Equipment *Emergency Operations*			
Facility In Box for EOF (contact environmental)			
1.	Whole Body *(TLD)*	(100)	(2)
2.	Dosimeters *(0-500mr)*	(4)	
3.	Dosimeters *(0-5R)*	(4)	
4.	Dosimeters *(0-50R)*	(4)	
5.	Dosimetry Issue Sheets	(2)	
Ambulance & Fire Kit			
In Box for U-2 Security			
1.	Whole Body *(TLD)*	(50)	(2)
2.	Extremity *(Rings)*	(6 pr)	(1 pr)
3.	Dosimetry Issue Sheets	(2)	
Oswego Hospital			
In Box for Oswego Hospital: ***(contact environmental)***			
*1.	Whole Body *(TLD)*	(10)	(2)
*2.	Extremity *(Rings)*	(10 pr)	(1 pr)
*3.	Dosimeters *(0-500mr)*	(*10)	
*4.	Dosimeters *(0-20R)*	(10)	
5.	Dosimeters *(0-1.5R)*	(5)	
6.	Dosimetry Issue Sheets	(2)	

* Should be placed in plastic bags as 10 sets. Each set contains one of each item.

ATTACHMENT 31: EMERGENCY TLD ISSUE SHEET

Facility/Kit Location _____

TLD NUMBER	DATE ON TLD	NAME	EXTREMITY	WHOLE BODY	SS#	SRPD#	ISSUED DATE/TIME	RETURNED DATE/TIME	RESULT mRem	REMARKS
							/	/		
							/	/		
							/	/		
							/	/		
							/	/		
							/	/		
							/	/		
							/	/		
							/	/		
							/	/		
							/	/		

*DO NOT ISSUE - CONTROL TLD

TLD NUMBER _____

TLD NUMBER _____

ATTACHMENT 32: NINE MILE POINT NUCLEAR STATION
PROCESS RAD MONITORING BOARD - UNIT 1

Date *(MM/DD/YY)* _____

Time	Monitors	Trend*
	Main Steam Lines	
	111 _____ mR/hr	
	121 _____ mR/hr	
	112 _____ mR/hr	
	122 _____ mR/hr	
	Emergency Condenser	
	111 _____ mR/hr	
	121 _____ mR/hr	
	112 _____ mR/hr	
	122 _____ mR/hr	
	Drywell CAM	
	_____ cpm	
	Reactor Building Vent Radiation	
	Ch 11 _____ mR/hr	
	Ch 12 _____ mR/hr	
	Service Water	
	_____ cpm	
	Radwaste Discharge	
	A _____ cps	
	B _____ cps	
	Stack Effluent	
	07 *(07a)* _____ cpm _____ µCi/sec	
	08 *(08a)* _____ cpm _____ µCi/sec	
	3a *(10a)* _____ cpm _____ µCi/sec	
	3b *(10b)* _____ cpm _____ µCi/sec	
	Offgas	
	Ch 11 _____ mR/hr	
	Ch 12 _____ mR/hr	

Time	Monitors	Trend*
	CR Vent	
	11 _____ cpm	
	12 _____ cpm	
	Containment High Range - DW	
	263' Ch 11 _____ R/hr	
	301' Ch 12 _____ R/hr	
	Reactor Building PING	
	P _____ cpm _____ µCi/cc	
	I _____ cpm _____ µCi/cc	
	NG _____ cpm _____ µCi/cc	
	Turbine Building PING	
	P _____ cpm _____ µCi/cc	
	I _____ cpm _____ µCi/cc	
	NG _____ cpm _____ µCi/cc	
	Radwaste 261' PING	
	P _____ cpm _____ µCi/cc	
	I _____ cpm _____ µCi/cc	
	NG _____ cpm _____ µCi/cc	
	RAGEMS	
	P _____ cpm _____ µCi/cc	
	I _____ cpm _____ µCi/cc	
	NG _____ cpm _____ µCi/cc	
	Stack Flow	
	_____ KCFM	
	High Range Stack Effluent	
	_____ mR/hr	

* Trend Symbols: ↑ = Increasing ↓ = Decreasing → = No Change

ATTACHMENT 33: NINE MILE POINT NUCLEAR STATION
PROCESS RAD MONITORING BOARD - UNIT 2

Date *(MM/DD/YY)* _____

Time	Monitor *(#/Name)*/Reading	Trend*
	GEMS-TB/SGTS-Stack RE 170 Station *(Manual)*	
	1. Particulate _____ µCi/sec	
	2. Iodine _____ µCi/sec	
	3. Noble Gas _____ µCi/sec	
	Stack Flow _____ SCFM	
	GEMS-Rx/RW Bldg-Vent RE 180 Station *(Manual)*	
	1. Particulate _____ µCi/sec	
	2. Iodine _____ µCi/sec	
	3. Noble Gas _____ µCi/sec	
	Stack Flow _____ SCFM	
	Service Water Monitors	
	82-SW146A _____ µCi/ml	
	91-SW146B _____ µCi/ml	
	Rad Waste Liquid Effluent Monitor	
	8-LWS206 _____ µCi/ml	
	Cooling Tower Blowdown	
	70-CWS157 _____ µCi/ml	
	Service Water Monitors	
	81-SWP23A _____ µCi/ml	
	90-SWP23B _____ µCi/ml	
	Reactor Building Ventilation *(SGTS off)*	
	Above	
	77-HVR14A-Ch 1 _____ µCi/cc	
	Ch 2 _____ µCi/cc	
	86-HVR14B _____ µCi/cc	
	Below	
	78-HVR32A-Ch 1 _____ µCi/cc	
	Ch 2 _____ µCi/cc	
	87-HVR32B _____ µCi/cc	
	Standby Gas Treatment *(Post Treatm't)*	
	68-GTS105 _____ µCi/cc	
	Offgas Monitors *(Before Charcoal)*	
	63-OFG13A _____ µCi/cc	
	64-OFG13B _____ µCi/cc	

Time	Monitor *(#/Name)*/Reading	Trend*
	Containm't High Rg Drywell Area El 261	
	79-RMS1A _____ R/hr	
	88-RMS1B _____ R/hr	
	80-RMS1C _____ R/hr	
	89-RMS1D _____ R/hr	
	Above Suppression Pool	
	27-RMS139 _____ R/hr	
	Main Steam Rad Monitor *(Manual)*	
	MSS 46A _____ mR/hr	
	MSS 46B _____ mR/hr	
	MSS 46C _____ mR/hr	
	MSS 46D _____ mR/hr	
	Continuous Air Mon. *(Drywell Atmos.)*	
	74-CMS10A-Ch 1 _____ µCi/cc	
	Ch 2 _____ µCi/cc	
	83-CMS10B-Ch 1 _____ µCi/cc	
	Ch 2 _____ µCi/cc	
	Rx Bldg Vent/Recirc Mode *(SGTS On)*	
	39-HVR229-Ch 1 _____ µCi/cc	
	Ch 2 _____ µCi/cc	
	Auxiliary Bay Vent N.	
	34-HVR237-Ch 1 _____ µCi/cc	
	Ch 2 _____ µCi/cc	
	Auxiliary Bay Vent S.	
	35-HVR238-Ch 1 _____ µCi/cc	
	Ch 2 _____ µCi/cc	
	Turbine Building Vent	
	65-HVT206-Ch 1 _____ µCi/cc	
	Ch 2 _____ µCi/cc	
	Rad Waste Equipment Exhaust	
	16-HVW195-Ch 1 _____ µCi/cc	
	Ch 2 _____ µCi/cc	
	Rad Waste Tank Exhaust	
	17-HVW196-Ch 1 _____ µCi/cc	
	Ch 2 _____ µCi/cc	
	Rad Waste Building Ventilation	
	18-HVW197-Ch 1 _____ µCi/cc	
	Ch 2 _____ µCi/cc	

* Trend Symbols:

↑ = Increasing ↓ = Decreasing → = No Change

ATTACHMENT 34: NINE MILE POINT NUCLEAR STATION
INPLANT SURVEY/SAMPLE STATUS BOARD

UNIT ☐ 1 ☐ 2 DATE ____ - ____ - ____ (M D Y) THIS ☐ IS A DRILL ☐ IS NOT A DRILL

TIME	LOCATION	DATA FROM	RESULTS	REMARKS

ATTACHMENT 35: NINE MILE POINT NUCLEAR STATION
DOWNWIND SURVEY/SAMPLE STATUS BOARD

UNIT ☐ 1 ☐ 2 DATE ____ - ____ - ____ (M D Y) THIS ☐ IS A DRILL ☐ IS NOT A DRILL

TIME	LOCATION/ERPA	DATA FROM	RESULTS	REMARKS

HABITABILITY SURVEY RESULTS:

CIRCLE EACH AFFECTED ERPA	Protective Action Recommendations/Implementations
TIME _____	NMPC RECOMMENDED ERPAs FOR EVACUATION: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
	NMPC RECOMMENDED ERPAs FOR SHELTER: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
TIME _____	OSWEGO COUNTY ACTUAL ERPAs EVACUATED: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
	OSWEGO COUNTY ACTUAL ERPAs SHELTERED: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

ATTACHMENT 36: NINE MILE POINT NUCLEAR STATION
EMERGENCY EVENTS STATUS BOARD

Date _____

TIME	EVENT

ATTACHMENT 37: NINE MILE POINT NUCLEAR STATION
EQUIPMENT SURVEY/SAMPLE STATUS BOARD

UNIT ☐ 1 ☐ 2 DATE ____ - ____ - ____ (M D Y) THIS ☐ IS A DRILL ☐ IS NOT A DRILL

EQUIPMENT				TEAMS	
TITLE/ID	CONDITION	CORRECTIVE ACTION	RETURNED TO SERVICE	NAME/LEADER	TEAM STATUS
TITLE ID			☐ ESTIMATED DATE ____ TIME ____ ☐ COMPLETED DATE ____ TIME ____	TEAM ID ____ LEADER ____	☐ STANDBY ☐ BRIEFING TIME DISPATCHED ____ ☐ ON THE JOB ☐ OTHER ____
TITLE ID			☐ ESTIMATED DATE ____ TIME ____ ☐ COMPLETED DATE ____ TIME ____	TEAM ID ____ LEADER ____	☐ STANDBY ☐ BRIEFING TIME DISPATCHED ____ ☐ ON THE JOB ☐ OTHER ____
TITLE ID			☐ ESTIMATED DATE ____ TIME ____ ☐ COMPLETED DATE ____ TIME ____	TEAM ID ____ LEADER ____	☐ STANDBY ☐ BRIEFING TIME DISPATCHED ____ ☐ ON THE JOB ☐ OTHER ____
TITLE ID			☐ ESTIMATED DATE ____ TIME ____ ☐ COMPLETED DATE ____ TIME ____	TEAM ID ____ LEADER ____	☐ STANDBY ☐ BRIEFING TIME DISPATCHED ____ ☐ ON THE JOB ☐ OTHER ____
TITLE ID			☐ ESTIMATED DATE ____ TIME ____ ☐ COMPLETED DATE ____ TIME ____	TEAM ID ____ LEADER ____	☐ STANDBY ☐ BRIEFING TIME DISPATCHED ____ ☐ ON THE JOB ☐ OTHER ____
TITLE ID			☐ ESTIMATED DATE ____ TIME ____ ☐ COMPLETED DATE ____ TIME ____	TEAM ID ____ LEADER ____	☐ STANDBY ☐ BRIEFING TIME DISPATCHED ____ ☐ ON THE JOB ☐ OTHER ____
TITLE ID			☐ ESTIMATED DATE ____ TIME ____ ☐ COMPLETED DATE ____ TIME ____	TEAM ID ____ LEADER ____	☐ STANDBY ☐ BRIEFING TIME DISPATCHED ____ ☐ ON THE JOB ☐ OTHER ____
TITLE ID			☐ ESTIMATED DATE ____ TIME ____ ☐ COMPLETED DATE ____ TIME ____	TEAM ID ____ LEADER ____	☐ STANDBY ☐ BRIEFING TIME DISPATCHED ____ ☐ ON THE JOB ☐ OTHER ____

NOTE: "*" INDICATES SAME AS BEFORE

ATTACHMENT 38: PLANT STATUS TRENDING BOARD

Date *(MM/DD/YY)* _____

PLANT STATUS BOARD															
TIME PARAMETERS															
Reactor Pressure *(psig)*															
Reactor Temperature *(F°)*															
Reactor Level (IN)															
Drywell Pressure *(psig)*															
Drywell Temperature *(F°)*															
Release Rate *(µCi/Sec)*															
Wind Direction from *(°)*															
Wind Speed *(MPH)*															
Stability Class															

ATTACHMENT 39: NINE MILE POINT NUCLEAR STATION
AREA RAD MONITORS - UNIT 1

Date *(MM/DD/YY)* _____ Time *(24 Hour)* _____

(Process Computer Displayed Time)

No.	Location	Results *(mR/hr)*	Trend*
1	TB 261' SE		
2	RB 318' New Fuel Storage Area		
3	TB 277' Control Room NW		
4	TB 277' SE-I&C Results Shop		
5	TB 300' Turbine-Generator End		
6	TB 300' Turbine-Feed Pump End		
7	TB 261' Condensation Pump Valve Corr.		
8	TB 261' Feed Pump Area		
9	TB 261' Switchgear Area		
10	TB 257' Condensation Demineralizer Valve Area		
11	TB 261' Regen. Area		
12	TB 261' NW-MUD Area		
13	Old W.B. 225' Drum Fill Op. Aisle		
14	Old W.B. 229' Pump Room		
15	W.B. 261' Radwaste Control Room		
16	Old W.B. 261' Storage and Shipping Area		
17	RB 249' TIP Area		
29	RB 340' Operator's Platform		
RFB	RB 340' Operator's Platform *(Refuel Bridge)*		
18	RB 340' Emergency Condensation Shield Wall		
19	RB 198' NE-RB Equipment Drain Tank Area		
20	RB 298' W-RB Close Loop Cool Area		
21	RB 261' NE-Clean Up Pump Area		
22	RB 281' NE-Rx Fuel Pool Cooling System Area		
23	RB 237' NW-Containment Rod Drive Mod Area		
24	RB 261 High Level Laboratory		
25	RB 340' E-Spent Fuel Pool Area		
26	TB 261' Large Equipment Decontamination Room		
27	TB 318' NW-Containment Spent Heat Exhaust Area		
28	RB 237' Rx N. Instrumentation Room		
30	WB 261' NW-Decontamination Sink Area		
31	WB 247' NW-West Wall		
32	WB 229' NW-South Wall		
33	OGB 229' West Wall		
34			
35			

* Trend Symbols: ↑ = Increasing ↓ = Decreasing → = No Change

ATTACHMENT 40: NINE MILE POINT NUCLEAR STATION
AREA RAD MONITORS - UNIT 2

Date *(MM/DD/YY)* _____ Time *(24 Hour)* _____
(DRMS Computer Displayed Time)

#-ARM Monitor	Location	Results *(mR/hr)*	Trend*
19-RMS108	RB 289' Southeast CRD Maintenance Area		
21-RMS144	RB 261' CRD Module Area South		
22-RMS106	RB 261' Entrance Area		
23-RMS143	RB 261' CRD Module Area North		
24-RMS145	RB 240' Sample Sink		
25-RMS105	RB 240' TIP Drive Mechanical Equipment Area		
26-RMS2B	RB 215' Recirc Pump Instrument Panel B		
28-RMS2A	RB 215' Recirc Pump Instrument Panel A		
29-RMS101	Auxiliary Bay North 175' RHS Heat. Exchange Equipment Room		
31-RMS104	RB 175' Equipment Drains Sumps & Pumps West		
32-RMS103	Auxiliary Bay South 175' RHS Heat Exchange Equipment Room		
33-RMS102	RB 175' Equipment Drains Sumps & Pumps East		
42-RMS112	RB 354' Fuel Handling Platform		
43-RMS111	RB 354' Fuel Handling Platform		
59-RMS192	TB 306' Gas Effluent Monitor Area *(Vital Area Monitor)*		
60-RMS191	TB 306' Low-Level Count Room *(Vital Area Monitor)*		
69-RMS193	Main Stack 261' Gas Effluent Monitor Area *(Vital Area Monitor)*		
71-RMS130	CB 261' Remote Shutdown Panel Area		

* Trend Symbols: ↑ = Increasing ↓ = Decreasing → = No Change

ATTACHMENT 41: EMERGENCY PROCEDURES TELEPHONE NUMBERS QUARTERLY PHONE CHECKS

1.0 PROCEDURE

1.1 For each person/organization listed, verify that the number(s) listed in this Attachment are correct by contacting that person/organization.

NOTE: For multiple numbers a verbal verification from the person/organization that other numbers are correct is "SAT".

1.2 Check "SAT" if the number is verified correct.

1.3 If the number is incorrect or no longer working, then perform the following:

a. If it is a number change, draw one line through the old number and write the new number next to it.

b. Verify the new number and check "SAT".

c. Generate an Immediate PCE to any affected EPIPs listed under Procedure Reference.

d. Generate a Future PCE to any affected EPMPs listed under Procedure Reference.

1.4 For all other discrepancies which cannot be resolved, record the discrepancy in the Remarks section and notify the Emergency Preparedness Organization.

1.5 Include a copy of Attachment #3, EPIP-EPP-30, annotated so as to indicate verification of the phone numbers listed.

PERSON/ORGANIZATION	TELEPHONE NO.	SAT	UNSAT	PROCEDURE REFERENCE
American Nuclear Insurers	(860) 561-3433 Ext. 304	☐	☐	EPIP-EPP-20
Bell Atlantic	479-2161	☐	☐	EPIP-EPP-17 EPMP-EPP-02
Burtch, Robert	Home: 342-2271	☐	☐	EPIP-EPP-24
	Beeper: 876-1124	☐	☐	
	Office: 349-7601	☐	☐	
Community Alert Network (CAN)	(518) 382-0675	☐	☐	EPMP-EPP-06
	(518) 382-8030 (Emergency)	☐	☐	EPIP-EPP-20
	(518) 382-8042	☐	☐	
	(800) 992-2331	☐	☐	
Control Room - Unit 1	349-2480	☐	☐	EPIP-EPP-20
	342-3462	☐	☐	
	349-2478	☐	☐	
	349-2842	☐	☐	
Control Room - Unit 2	349-2170	☐	☐	EPIP-EPP-20
	342-1929	☐	☐	
	342-3059	☐	☐	
	349-2168	☐	☐	
	349-1260	☐	☐	
Control Room Communications Aide - Unit 1	349-2869	☐	☐	EPIP-EPP-20
Control Room Communications Aide - Unit 2	349-2173	☐	☐	EPIP-EPP-20
Control Room Fax Rapid Com #'s - U1/U2				
• EOF #5	593-5951	☐	☐	EPIP-EPP-20
• TSC #01	349-2111	☐	☐	
• JNC #14	592-3850	☐	☐	
• Oswego County #27	598-6678	☐	☐	
DOE	(516) 344-2200	☐	☐	EPIP-EPP-20
	(516) 344-3424	☐	☐	
Emergency Preparedness Vehicle Cellular Phones				
• 5-484	593-4646	☐	☐	EPIP-EPP-07
• 5-487	593-4645	☐	☐	
• 5-243	593-4651	☐	☐	
• 2-1077	593-9606	☐	☐	
Environmental Survey Sample Team Coordinator (ESSTC)	593-5991	☐	☐	EPIP-EPP-07
	593-5988	☐	☐	
	593-5987	☐	☐	
EOF	593-5740	☐	☐	EPIP-EPP-14
	593-5735	☐	☐	
EOF Communications Coordinator	593-5875	☐	☐	EPIP-EPP-20
EOF Security Director	593-5890	☐	☐	EPIP-EPP-14

PERSON/ORGANIZATION	TELEPHONE NO.	SAT	UNSAT	PROCEDURE REFERENCE
EOF Technical Liaison Advisory Manager	593-5884	☐	☐	EPIP-EPP-20
(TLAM)	593-5818	☐	☐	
FTS TSC / EOF				
• ENS 700-371-5324	700-371-0064	☐	☐	EPIP-EPP-17
• HPN 700-371-5329	700-371-6299	☐	☐	
• PMCL 700-371-5326	700-371-0062	☐	☐	
• RSCL 700-371-5327	700-371-0063	☐	☐	
• MCL 700-371-5323	700-371-0060	☐	☐	
• LAN 700-371-5328	700-371-0061	☐	☐	
General Electric	(408) 971-1038	☐	☐	EPIP-EPP-20
JAFNPP Control Room	349-6665	☐	☐	EPIP-EPP-20
	349-6666	☐	☐	
	342-3840	☐	☐	
	349-6323 Fax	☐	☐	
Merritt, Carey	Home: 298-7490	☐	☐	EPIP-EPP-24
(Environmental)	Beeper: 876-3169	☐	☐	
	Office: 349-4200	☐	☐	
National Weather Service	(800) 462-7751	☐	☐	EPIP-EPP-08
	(716) 565-9001	☐	☐	
New York State Warning Point	(518) 457-2200	☐	☐	EPIP-EPP-17
	(518) 457-6811	☐	☐	EPIP-EPP-20
	(518) 457-9942 Fax	☐	☐	
	(518) 457-8926 Fax	☐	☐	
	(518) 457-9997	☐	☐	
New York Page	(800) 753-2337	☐	☐	EPIP-EPP-17
NY State Emergency Mgmt. Office	(518) 457-2200	☐	☐	EPIP-EPP-24
	(518) 457-6811	☐	☐	
	(518) 457-9942 Fax	☐	☐	
Central Regional Communications Group	(315) 460-2378	☐	☐	EPMP-EPP-02
(Radio Shop)	(315) 460-2379	☐	☐	EPIP-EPP-17
NLC Receptionist	349-2080	☐	☐	EPIP-EPP-23
NRC Emergency Operations Center	(301) 816-5100 Main	☐	☐	EPIP-EPP-20
	(301) 951-0550 Backup	☐	☐	EPIP-EPP-24
	(301) 415-0550 Backup	☐	☐	EPMP-EPP-02
	(301) 816-5151 Fax	☐	☐	EPIP-EPP-17
NRC (FTS Problems)	(301) 816-5100	☐	☐	EPIP-EPP-17
	(301) 951-0550	☐	☐	
NRC Resident Office	349-2529	☐	☐	EPIP-EPP-24
	342-4041	☐	☐	
	Beeper:(888)364-4960	☐	☐	
Nuclear Security	349-2401	☐	☐	EPIP-EPP-24

PERSON/ORGANIZATION	TELEPHONE NO.	SAT	UNSAT	PROCEDURE REFERENCE
O'Brien, David	Home: 343-2484	☐	☐	EPIP-EPP-15
(Doctor)	Office: 343-4348	☐	☐	
Oswego County Emergency Mgmt. Office	598-1191	☐	☐	EPIP-EPP-24
	598-1192	☐	☐	
	598-6678 Fax	☐	☐	
Oswego County Sheriff	911	☐	☐	EPIP-EPP-20
	343-5490	☐	☐	
	349-3409	☐	☐	
	349-3410	☐	☐	
	349-3411	☐	☐	
Oswego County 911 Center	911	☐	☐	EPIP-EPP-04
(Oswego County Warning Point)	343-1313	☐	☐	EPIP-EPP-03
	349-8502	☐	☐	EPIP-EPP-24
	349-8500 Fax	☐	☐	EPIP-EPP-30
				EPIP-EPP-20
				EPIP-EPP-28
Oswego Hospital	349-5522	☐	☐	EPIP-EPP-04
Page Activation Number	876-XXXX	☐	☐	EPIP-EPP-17
	1-800-732-4365	☐	☐	
Pager Coordinator	428-6700 OR (821)6700	☐	☐	EPIP-EPP-17
Personnel Accountability Coordinator	2662	☐	☐	EPIP-EPP-18
				EPIP-EPP-05
Radiation Mgmt. Consultants	(215) 243-2990	☐	☐	EPIP-EPP-15
	(215) 824-1300	☐	☐	
Radiological Assessment Manager (RAM)	349-1353	☐	☐	EPIP-EPP-06
	343-6408	☐	☐	EPIP-EPP-07
RP Team Coordinator (RPTC)	349-1272	☐	☐	EPIP-EPP-06
				EPIP-EPP-07
RECS Line Trouble	(518) 457-2200	☐	☐	EPMP-EPP-02
System Hydro Supervisor	(315) 785-5203	☐	☐	EPIP-EPP-20
	(315) 785-5206	☐	☐	
	(315) 785-7177	☐	☐	
	(315) 785-7186	☐	☐	
	(315) 785-7184 Fax	☐	☐	
Taylor, Arthur (Skip)	Home: 342-5337	☐	☐	EPIP-EPP-24
	Office: 349-4982	☐	☐	
Torbitt, Jack	Home: 593-2713	☐	☐	EPIP-EPP-24
	Beeper: 876-1282	☐	☐	
	Office: 349-2543	☐	☐	
Siren Problem Group				
*Farrell, Kevin	Office: 460-2378/9	☐	☐	EPIP-EPP-30
	Home: 484-3337	☐	☐	
	Beeper: 876-3147	☐	☐	
*Rebeor, Anthony	Office: 592-0166	☐	☐	EPIP-EPP-30

PERSON/ORGANIZATION	TELEPHONE NO.	SAT	UNSAT	PROCEDURE REFERENCE
Attachment #3 EPIP-EPP-30	N/A	☐	☐	EPIP-EPP-30

NOTE: It is acceptable to fax or ask verbally the * individuals to verify the phone numbers of the people in their respective group as listed in Attachment 3 of EPIP-EPP-30.

Remarks: _____

_____

_____

_____

_____

_____

_____

_____ / _____ _____ / _____ _____ / _____

Performed by Date Supervisor Approval Date E.P. Review Date

ATTACHMENT 42: EMERGENCY KEY INVENTORY (QUARTERLY)

☐ Quarterly: 1 2 3 4 circle one _____ (year)
☐ Post Drill/ Exercise/Emergency _____ (date)
☐ Other _____

	GM-5	19-256	S-8	2025	Site Vehicles	JNC (Master)
TSC ☐ SAT ☐ UNSAT	X[1]		X			
OSC ☐ SAT ☐ UNSAT	X[1]		X		X	
JNC ☐ SAT ☐ UNSAT			X			X[2]
OAA ☐ SAT ☐ UNSAT			X	X		

[1] Contained in "break away" box outside facility.

[2] Contained in key box inside Utility Room.

Remarks: _____

_____

_____

_____

_____ / _____
Performed by Date

_____ / _____
Supervisor Approval Date

_____ / _____
E.P. Review Date

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION

EMERGENCY PLAN MAINTENANCE PROCEDURE

EPMP-EPP-06

REVISION 03

EMERGENCY RESPONSE ORGANIZATION NOTIFICATION MAINTENANCE AND SURVEILLANCE

Approved By:
J. D. Jones — Director Emergency Preparedness — 8/12/96 Date

Effective Date: 09/03/96

LIST OF EFFECTIVE PAGES

Page No.	Change No.	Page No.	Change No.	Page No.	Change No.
Coversheet	.				
i	. . . .				
ii	. . . .				
1	. . . .				
2	. . . .				
3	. . . .				
4	. . . .				
5	. . . .				
6	. . . .				

TABLE OF CONTENTS

1.0 PURPOSE

To provide guidance on the maintenance and surveillance of the methods used to notify the Emergency Response Organization (ERO) of drills, exercises and emergencies.

2.0 PRIMARY RESPONSIBILITY

2.1 Director - Emergency Preparedness

- Assigns the performance of maintenance and surveillance of the ERO notification systems.
- Oversees the maintenance of secondary responder notification method maintenance.

2.2 ERO Initial Responders (with secondary responder responsibilities)

Assigns the performance of maintenance and surveillance of their notification systems.

3.0 PROCEDURE

3.1 Emergency Preparedness Actions

3.1.1 Pager Surveillance

a. Should be conducted the first Friday of each month.

b. The test will consist of activation of ERO initial responder pagers by sending a "000999" code via telephone activation.

c. A test is considered successful if a single ERO initial responder pager receives and displays the "000999" message.

d. The failure of any single pager to meet the success criteria should be resolved between the pager owner and the NMPC pager coordinator.

e. The failure of the pager system to meet the success criteria shall result in immediate corrective actions by EP.

3.1.2 Telephone Notification System Maintenance

NOTE: Automated telephone notification for the ERO is provided by Community Alert Network (CAN).

a. The CAN System configuration should be maintained in accordance with Attachment 1.

3.1.2 (Cont)

b. Review the CAN List for initial responders quarterly. Make any changes needed to the CAN List so that it accurately reflects the current duty roster. Utilize Attachment 2 or equivalent form, for making changes.

c. Any other group rosters on CAN should be sent to the responsible owners quarterly, for review and modification.

3.1.3 Telephone Notification System Surveillance and Testing

a. The CAN System will be tested quarterly as follows:

1. Contact CAN in accordance with EPIP-EPP-20.

2. Request activation of the system and provide an appropriate emergency message.

* *

CAUTION

Selecting "Alert or higher" will result in the CAN message instructing ERO members to respond to emergency duty locations.

* *

3. Successful activation is indicated by:

- Activation of any ERO initial responder pager with the appropriate code.

- Activation of the proper CAN telephone list based on the printed report from CAN.

b. Failure of any test criteria shall result in immediate corrective actions by EP.

3.2 ERO Initial Responder (with secondary responder responsibilities) Actions

3.2.1 IF a CAN group roster exists, EP will send the roster to Team 1 Initial Responder on a quarterly basis. THEN:

a. The Team 1 Initial Responder should review the roster for accuracy and if needed make changes using Attachment 2, or equivalent form.

b. Attachment 2 should be sent to CAN using the fax number on the attachment.

3.2.2 IF no CAN group roster exists, THEN the Team 1 Initial Responder shall maintain and test their method for notifying secondary responders. This can include phone "trees" or pagers.

3.3 ERO Member Notification Test Actions

3.3.1 Respond to any notification drills by completing Attachment 3 and sending it to EP.

NOTE: Pager tests are not considered notification drills.

3.3.2 Report any pager problems or failures to the NMPC pager coordinator.

3.3.3 Report any changes in home telephone numbers to Emergency Preparedness.

4.0 DEFINITIONS

4.1 Community Alert Network (CAN) - A vendor that provides an automated telephone service that activates the NMPC pager system and contacts designated persons with pre-recorded emergency messages.

4.2 Notification Drill - An evolution that tests the integrated capability of the ERO notification system, typically consisting of a pager and telephone notification.

5.0 REFERENCES AND COMMITMENTS

None

6.0 RECORD REVIEW AND DISPOSITION

The following records generated by this procedure shall be maintained by Nuclear Records Management for the Permanent Plant File in accordance with NIP-RMG-01:

None

The following records generated by this procedure are not required for retention in the Permanent Plant File:

- Attachment 2, CAN Database Change Form
- Attachment 3, Notification Drill Response Form

ATTACHMENT 1
COMMUNITY ALERT NETWORK (CAN) SYSTEM DESCRIPTION

1.0 CAN is an automated telephone notification system that dials predefined telephone numbers when requested by NMPC. The CAN System will dispense a message to each person called, indicating plant status and any requested response.

2.0 The CAN database is divided into four lists, as follows:

List #	When called	Who is called
1	Unusual event, normal hours	EP Staff, NRC Resident pager, ERO Initial Responder pagers
2	Unusual event, off-hours	EP Staff, NRC Resident pager, ERO Initial Responder pagers
3	Alert or higher, normal hours	EP Staff, NRC Resident pager, ERO Initial Responder pagers
4	Alert or higher, off-hours	• All initial responders (home phone) • ERO initial responder pagers • Some secondary responders • EP Staff, NRC Resident pager

3.0 EPIP-EPP-20 contains details on the activation of this system.

ATTACHMENT 2
CAN DATABASE CHANGE FORM (EXAMPLE)

Instructions:

1. Fill in your group name in the space provided. (Valid group names are listed on the back)
2. Fill in your name and phone number in the "Completed By" space
3. Complete the change table for any changes needed
4. Fax this page to Can at 518-382-0675

List # 4	Group Name:		
Completed By:		Phone: (315)	
(A)dd (D)elete (C)hange	Name	Area Code	Telephone

ATTACHMENT 3
NOTIFICATION DRILL RESPONSE FORM

Results Summary:

Name: _____ Emergency Position: _____

Team #: _____ Date Received: _____

Pager Activation:

☐ Yes (Time _____ Message _____): ☐ No

Telephone Notification:

☐ None	☐ Drill	☐ Unit 1	☐ No response required
	☐ Not a Drill	☐ Unit 2	☐ Respond-normal location
	☐ Pager Test	☐ Both Units	☐ Respond-alternate location
		☐ Pager Test	☐ Pager Test

Appropriate number of Secondary Responders indicated they are available to respond:

☐ Yes ☐ No

How long will it take you to get to your emergency response facility (in minutes)?

_____

Comments: _____

_____

_____

_____

Please return to Emergency Preparedness, NLC

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION

EMERGENCY PLAN MAINTENANCE PROCEDURE

EPMP-EPP-0101

REVISION 01

UNIT 1 EMERGENCY CLASSIFICATION TECHNICAL BASES

TECHNICAL SPECIFICATION REQUIRED

Approved by:
N. L. Rademacher

[redacted] Plant Manager - Unit 1

2/23/97
Date

Effective Date: 06/26/97

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1.0 PURPOSE

To describe the technical bases for the emergency action levels at Unit 1.

2.0 PRIMARY RESPONSIBILITY

2.1 Emergency Preparedness Group

- Monitor/solicit any changes to the technical bases of each emergency action level.
- Assess these changes for potential impact on the emergency action level.
- Maintain the emergency action level technical bases, EPIP-EPP-01, and the Emergency Action Level Matrix/Unit 1.

3.0 PROCEDURE

3.1 Emergency Preparedness Group

3.1.1 Maintain a matrix of technical bases references for each emergency action level.

3.1.2 Evaluate each technical bases reference change for impact on the affected emergency action level.

3.1.3 Modify EPIP-EPP-01, Emergency Action Level (EAL) Matrix/Unit 1 and Attachment 1 of this procedure, as needed.

4.0 DEFINITIONS

See Attachment 3.

5.0 REFERENCES AND COMMITMENTS

5.1 Licensee Documentation

None

5.2 Standards, Regulations, and Codes

NUMARC NESP-007, Methodology for Development of Emergency Action Levels.

5.3 Policies, Programs, and Procedures

EPIP-EPP-01, Classification of Emergency Conditions at Unit.

5.4 Supplemental References

Nine Mile Point Unit 1, Plant-Specific EAL Guideline

5.5 Commitments

None

6.0 RECORD REVIEW AND DISPOSITION

None

ATTACHMENT 1
UNIT 1 EMERGENCY ACTION LEVEL TECHNICAL BASES

PURPOSE

The purpose of this document is to provide an explanation and rationale for each of the emergency action levels (EALs) included in the EAL Upgrade Program for Nine Mile Point 1 (NMP-1). It is also intended to facilitate the review process of the NMP-1 EALs and provide historical documentation for future reference. This document is also intended to be utilized by those individuals responsible for implementation of EPIP-EPP-01 "Classification of Emergency Conditions Unit 1" as a technical reference and aid in EAL interpretation.

DISCUSSION

EALs are the plant-specific indications, conditions or instrument readings which are utilized to classify emergency conditions defined in the NMP-1 Emergency Plan.

The revised EALs were derived from the Initiating Conditions and example EALs given in the NMP-1 Plant-Specific EAL Guideline (PEG). The PEG is the NMP-1 plant interpretation of the NUMARC methodology for developing EALs.

Many of the EALs derived from the NUMARC methodology are fission product barrier based. That is, the conditions which define the EALs are based upon loss or potential loss of one or more of the three fission product barriers.

The primary fission product barriers are:

A. Reactor Fuel Cladding (FC): The fuel cladding is comprised of the zirconium tubes which house the ceramic uranium oxide pellets along with the end plugs which are welded into each end of the fuel rods.

B. Reactor Coolant System (RCS): The RCS is comprised of the reactor vessel shell, vessel head, CRD housings, vessel nozzles and penetrations and all primary systems directly connected to the RPV up to the outermost primary containment isolation valve.

C. Primary Containment (PC): The primary containment is comprised of the drywell, suppression chamber (torus), the interconnections between the two, and all isolation valves required to maintain primary containment integrity under accident conditions.

Although the secondary containment (reactor building) serves as an effective fission product barrier by minimizing ground level releases, it is not considered as a fission product barrier for the purpose of emergency classification.

The following criteria serves as the bases for event classification related to fission product barrier loss:

Unusual Event:

Any loss or potential loss of containment

Alert:

Any loss or any potential loss of either fuel clad or RCS

Site Area Emergency:

Any loss of both fuel clad and RCS
or
Any potential loss of both fuel clad and RCS
or
Any potential loss of either fuel clad or RCS with a loss of any additional barrier

General Emergency:

Loss of any two barriers with loss or potential loss of a third

Those EALs which reference one or more of the fission product barrier Initiating Condition designators (FC, RCS and PC) in the PEG Reference section of the technical bases are derived from the Fission Product Barrier Analysis. The analysis entailed an evaluation of every combination of the plant specific barrier loss/potential loss indicators applied to the above criteria.

Where possible, the EALs have been made consistent with and utilize the conditions defined in the NMP-1 symptom based Emergency Operating Procedures (EOPs). While the symptoms that drive operator actions specified in the EOPs are not indicative of all possible conditions which warrant emergency classification, they do define the symptoms, independent of initiating events, for which reactor plant safety and/or fission product barrier integrity are threatened. Where these symptoms are clearly representative of one of the PEG Initiating Conditions, they have been utilized as an EAL. This allows for rapid classification of emergency situations based on plant conditions without the need for additional evaluation or event diagnosis. Although some of the EALs presented here are based on conditions defined in the EOPs, classification of emergencies using these EALs is not dependent upon EOP entry or execution. The EALs can be utilized independently or in conjunction with the EOPs.

To the extent possible, the EALs are symptom based. That is, the action level is defined by values of key plant operating parameters which identify emergency or potential emergency conditions. This approach is appropriate because it allows the full scope of variations in the types of events to be classified as emergencies. But, a purely symptom based approach is not sufficient to address all events for which emergency classification is appropriate. Particular events to which no predetermined symptoms can be ascribed have also been utilized as EALs since they may be indicative of potentially more serious conditions not yet fully realized.

DISCUSSION (Cont)

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

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

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

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

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

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

DISCUSSION (Cont)

For each EAL, the following information is provided:

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

The identified operating modes are defined as follows:

Power Operations

Reactor is critical and the mode switch is in RUN.

Startup/Hot Standby

This mode is subsumed in the Power Operations mode.

Hot Shutdown

Mode switch is in SHUTDOWN or REFUEL and reactor coolant temperature is >212 °F.

Cold Shutdown

Mode switch in SHUTDOWN or REFUEL and reactor coolant temperature is ≤212 °F.

Refuel

Mode switch in REFUEL and reactor coolant temperature ≤212°F.

Defueled

RPV contains no irradiated fuel.

1.0 REACTOR FUEL

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

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

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

- Coolant Activity: During normal operation, reactor coolant fission product activity is very low. Small concentrations of fission products in the coolant are primarily from either the fission of tramp uranium in the fuel cladding or minor perforations in the cladding itself. Any significant increase from these base-line levels is indicative of fuel failures.

- Off-gas Activity: As with coolant activity, any fuel failures will release fission products to the reactor coolant. Those products which are gaseous or volatile in nature will be carried over with the steam and eventually be detected by the air ejector off-gas radiation monitors.

- Containment Radiation Monitors: Although not a direct indication or measurement of fuel damage, exceeding predetermined limits on containment high range radiation monitors under LOCA conditions is indicative of possible fuel failures. In addition, this indicator is utilized as an indicator of RCS loss and potential containment loss.

- Other Radiation Monitors: Other process and area radiation monitoring systems are specifically designed to provide indication of possible fuel damage such as Area Radiation Monitoring Systems.

- Refueling Accidents: Both area and process radiation monitoring systems designed to detect fission products during refueling conditions as well as visual observation can be utilized to indicate loss or potential loss of spent fuel cladding integrity.

1.0 REACTOR FUEL

1.1 Coolant Activity

1.1.1 Unusual Event

Coolant activity > 25 µCi/gm I-131 equivalent

NUMARC IC:

Fuel clad degradation

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

PEG Reference(s):

SU4.2

Bases Reference(s):

1. Radiological Technical Specifications, Appendix A to Facility Operating License No. DPR-63, Article 3.2.4.a

1.1.2 Alert

Coolant activity > 300 µCi/gm I-131 equivalent

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel Clad Loss

Mode Applicability:

Power Operation, Hot Shutdown

1.1.2 (Cont)

Basis:

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

PEG Reference(s):

FC1.1

Basis Reference(s):

1. General Electric NEDO-22215, Procedures for the Determination of the Extent of Core Damage Under Accident Conditions

1.2 Off-gas Activity

1.2.1 Unusual Event

Valid offgas radiation ≥ hi-hi alarm

NUMARC IC:

Fuel clad degradation

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power operation, Hot shutdown

Basis:

Elevated offgas radiation activity represents a potential degradation in the level of safety of the plant and a potential precursor of more serious problems. This offgas radiation level corresponds to the Technical Specification allowable limit of 500,000 μCi/sec (recombiner discharge gross noble gases beta and/or gamma). The hi-hi alarm setpoint has been conservatively selected because it is operationally significant and is readily recognizable by Control Room operating staff. The system isolates when both RN-12A and 12B alarm.

1.2.1 (Cont)

The hi-hi offgas radiation alarm is nominally set in accordance with the Offsite Dose Calculation Manual.

PEG Reference(s):

SU4.1

Basis Reference(s):

1. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications, Amendment 66, Article 3.6.15.c

2. N1-ARP-H1, annunciator H1-2-7

1.2.2 **Alert**

Valid offgas radiation $\geq$ 10 x hi-hi alarm

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel Clad Loss

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

This EAL is to cover other indications that may indicate loss or potential loss of the fuel clad barrier. Air ejector offgas radiation levels >10 times the nominal hi-hi setpoint is indicative of significant fuel cladding failure and is consistent with the Alert EAL of 300 μCi/gm I-131 equivalent coolant activity. The hi-hi offgas radiation level corresponds to the Technical Specification allowable limit of 500,000 μCi/sec (recombiner discharge gross noble gases beta and/or gamma). The hi-hi alarm setpoint has been conservatively selected because it is operationally significant and is readily recognized by Control Room operating staff.

The hi-hi offgas radiation alarm is nominally set at 1500 mRem/hr on RN-12A/B. 10 times the hi-hi alarm setpoint is therefore 15,000 mRem/hr.

PEG Reference (s):

FC4.1

Basis Reference (s):

1. N1-ARP-H1, annunciator H1-2-7

1.3 Containment Radiation

1.3.1 Alert

Drywell radiation ≥ 20 R/hr

NUMARC:

N/A

FPB Loss/Potential Loss:

RCS Loss

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

The drywell radiation reading is a value which indicates the release of reactor coolant to the drywell. The reading is calculated assuming the instantaneous release and dispersal of the reactor coolant noble gas and iodine inventory associated with normal operating concentrations (i. e., within Technical Specifications) into the drywell atmosphere. The reading is less than that specified for EAL 1.3.2 because no damage to the fuel clad is assumed. Only leakage from the RCS is assumed in this EAL.

The calculation referenced resulted in an EAL value of 24 R/hr. However, a value of 20 R/h was selected as it is observable on existing instrumentation.

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell High Range Radiation Monitors have a range of 0 to E8 R/hr on recorder RR 201.7-36C pen 1 and 2. They are installed in the following drywell locations:

RAm 201.7-36 Az 340°, El 263' 6"

RAm 201.7-37 Az 310°, EL 301' 0"

PEG Reference(s):

RCS3.1

Basis Reference(s):

1. N1-RG197-EIL1, Important Design Features of Regulatory Guide 1.97 Instruments
2. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications, Amendment 72, 76, Table 3.6.11-1
3. Calculation 1H21C003, Rev. 0

1.3.2 Site Area Emergency

Drywell radiation ≥ 3000 R/hr

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel Clad Loss, RCS Loss

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

The drywell radiation reading is a value which indicates the release of reactor coolant, with elevated activity indicative of fuel damage, into the drywell. The reading is calculated assuming the instantaneous release and dispersal of the reactor coolant noble gas and iodine inventory associated with a concentration of 300 μCi/gm dose equivalent I-131 into the drywell atmosphere. Reactor coolant concentrations of this magnitude are several times larger than the maximum concentrations allowed within Technical Specifications (including iodine spiking) and are therefore indicative of fuel damage (approximately 2% - 5% clad failure depending on core inventory and RCS volume). The reading is higher than that specified for EAL 1.3.1 and, thus, this EAL indicates a loss of both the fuel clad barrier and the RCS barrier.

The calculation referenced resulted in an EAL value of 3090 R/hr. However, a value of 3000 R/hr was selected as it is observable on existing instrumentation.

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell High Range Radiation Monitors have a range of 0 to E8 R/hr on recorder RR 201.7-36C pen 1 and 2. They are installed in the following drywell locations:

RAm 201.7-36 Az 340°, El 263' 6"

RAm 201.7-37 Az 310°, EL 301' 0"

PEG Reference(s):

FC3.1

1.3.2 (Cont)

Basis Reference(s):

1. N1-RG197-EIL1, Important Design Features of Regulatory Guide 1.97 Instruments
2. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications, Amendment 72, 76, Table 3.6.11-1
3. Calculation 1H21C003, Rev. 0

1.3.3 General Emergency

Drywell radiation ≥ 4.0E6 R/hr

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel Clad Loss, RCS Loss, Containment Potential Loss

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

The drywell radiation reading is a value which indicates significant fuel damage well in excess of that required for loss of the RCS barrier and the fuel clad barrier. NUREG-1228 "Source Estimations During Incident Response to Severe Nuclear Power Plant Accidents" states that such readings do not exist when the amount of clad damage is less than 20%. A major release of radioactivity requiring offsite protective actions from core damage is not possible unless a major failure into the reactor coolant has occurred. Regardless of whether the primary containment barrier itself is challenged, this amount of activity in containment could have severe consequences if released. It is, therefore, prudent to treat this as a potential loss of the containment barrier and upgrade the emergency classification to a General Emergency.

The calculation referenced resulted in an EAL value of 3.9E6 R/hr. However, a value of 4.0E6 R/hr was selected as it is observable on existing instrumentation.

1.3.3 (Cont)

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell High Range Radiation Monitors have a range of 0 to E8 R/hr on recorder RR 201.7-36C pen 1 and 2. They are installed in the following drywell locations:

RAm 201.7-36 Az 340°, El 263' 6"

RAm 201.7-37 Az 310°, EL 301' 0"

PEG Reference(s):

PC3.1

Basis Reference(s):

1. N1-RG197-EIL1, Important Design Features of Regulatory Guide 1.97 Instruments
2. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications, Amendment 72, 76, Table 3.6.11-1
3. Calculation 1H21C003, Rev. 0

1.4 Other Radiation Monitors

1.4.1 Unusual Event

Any sustained ARM reading > 100 x alarm (OP-50A) or offscale hi resulting from an uncontrolled process

NUMARC IC:

Unexpected increase in plant radiation or airborne concentration.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

1.4.1 (Cont)

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

PEG Reference(s):

AU2.4

Basis Reference(s):

1. N1-EOP-5/6, Secondary Containment Control / Radioactivity Release Control

2. OP-50A, Area Radiation Monitoring System, Attachments 2 and 3

1.4.2 Alert

Sustained RB Vent Monitor RN07A5 or B5 > 5 mR/hr
OR
Any sustained refuel floor rad monitor > 8.0 R/hr or offscale hi, Table 1.

Table 1
Refuel Floor Rad Monitors

West End of Shield Wall, RB 340 (#18)
Rx Bldg. - East Wall El 340' (#25)
Refuel Bridge (high range) (Process Mon.)
Refuel Bridge (low range) (#29)

NUMARC IC:

Major damage to irradiated fuel or loss of water level that has or will result in the uncovering of irradiated fuel outside the reactor vessel.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

1.4.2 (Cont)

Basis:

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

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

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

Thus, an Alert Classification for this event is appropriate. Escalation, if appropriate, would occur via Emergency Director judgment in EAL Category 9.0.

The basis for the reactor building ventilation monitor setpoint (5 mR/hr) is a spent fuel handling accident and is, therefore, appropriate for this EAL.

Area radiation levels on the refuel floor at or above the Maximum Safe Operating value (8.0 R/hr) are indicative of radiation fields which may limit personnel access. Access to the refuel floor is required in order to visually observe water level in the spent fuel pool. Without access to the refuel floor, it would not be possible to determine the applicability of EAL 1.5.2. For those radiation monitors whose upper range limits are less than 8.0 R/hr, a value of offscale high is used.

PEG Reference(s):

AA2.1

Bases Reference(s):

1. NUREG-0818, Emergency Action Levels for Light Water Reactors
2. NUREG/CR-4982, Severe Accident in Spent Fuel Pools in Support of Generic Safety Issue 82, July 1987
3. NRC Information Notice No. 90-08, KR-85 Hazards from Decayed Fuel
4. N1-ARP-L1, annunciator L1-4-3
5. Niagara Mohawk Power Corporation Memo File Code NMP31027, Exposure Guidelines for Unusual/Accident Conditions

1.4.3 Alert

Sustained area radiation levels > 15 mR/hr in either:
Control Room
OR
Central Alarm Station (CAS) and Secondary Alarm Station (SAS)

NUMARC IC:

Release of radioactive material or increases in radiation levels within the facility that impedes operation of systems required to maintain safe operations or to establish or maintain cold shutdown.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This EAL addresses increased radiation levels that impede necessary access to operating stations requiring continuous occupancy to maintain safe plant operation or perform a safe plant shutdown. Areas requiring continuous occupancy include the Control Room, the central alarm station (CAS) and the secondary security alarm station (SAS). The security alarm stations are included in this EAL because of their importance to permitting access to areas required to assure safe plant operations.

The value of 15 mR/hr is derived from the GDC 19 value of 5 rem in 30 days with adjustment for expected occupancy times. Although Section III.D.3 of NUREG-0737, "Clarification of TMI Action Plan Requirements", provides that the 15 mR/hr value can be averaged over the 30 days, the value is used here without averaging. A 30 day duration implies an event potentially more significant than an Alert.

It is the impaired ability to operate the plant that results in the actual or potential degradation of the level of safety of the plant. The cause or magnitude of the increase in radiation levels is not a concern of this EAL. The Emergency Director must consider the source or cause of the increased radiation levels and determine if any other EALs may be involved. For example, a dose rate of 15 mR/hr in the Control Room may be a problem in itself. However, the increase may also be indicative of high dose rates in the containment due to a LOCA. In this latter case, a Site Area Emergency or a General Emergency may be indicated by other EAL categories.

This EAL could result in declaration of an Alert at NMP-1 due to a radioactivity release or radiation shine resulting from a major accident at the NMP-2 or JAFNPP. Such a declaration would be appropriate if the increase impairs safe plant operation.

1.4.3 (Cont)

This EAL is not intended to apply to anticipated temporary radiation increases due to planned events (e. g., radwaste container movement, depleted resin transfers, etc.).

PEG Reference(s):

AA3.1

Basis Reference(s):

1. GDC 19

2. NUREG-0737, "Clarification of TMI Action Plan Requirements", Section III.D.3

1.4.4 Alert

Sustained area radiation levels > 8 R/hr in any areas, Table 2
AND
Access is required for safe operation or shutdown

Table 2
Plant Safety Function Areas

Reactor Building
Turbine Building
Screen and Pump House
Off Gas Building

NUMARC IC:

Release of radioactive material or increases in radiation levels within the facility that impedes operation of systems required to maintain safe operations or to establish or maintain cold shutdown.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

1.4.4 (Cont)

Basis:

This EAL addresses increased radiation levels in areas requiring infrequent access in order to maintain safe plant operation or perform a safe plant shutdown. Area radiation levels at or above 8 R/hr are indicative of radiation fields which may limit personnel access. This bases of the value is described in NMPC memo File Code NMP31027 "Exposure Guidelines For Unusual/Accident Conditions". The areas selected are consistent with those listed in other EALs and represent those structures which house systems and equipment necessary for the safe operation and shutdown of the plant.

It is the impaired ability to operate the plant that results in the actual or potential degradation of the level of safety of the plant. The cause or magnitude of the increase in radiation levels is not a concern of this EAL. The Emergency Director must consider the source or cause of the increased radiation levels and determine if any other EAL may be involved. For example, a dose rate of 8 R/hr may be a problem in itself. However, the increase may also be indicative of high dose rates in the containment due to a LOCA. In this latter case, a Site Area Emergency or a General Emergency may be indicated by other EAL categories.

This EAL could result in declaration of an Alert at NMP-1 due to a radioactivity release or radiation shine resulting from a major accident at the NMP-2 or JAFNPP. Such a declaration would be appropriate if the increase impairs safe plant operation.

This EAL is not meant to apply to increases in the containment radiation monitors as these are events which are addressed in other EALs. Nor is it intended to apply to anticipated temporary radiation increases due to planned events (e. g., radwaste container movement, deplete resin transfers, etc.).

PEG Reference(s):

AA3.2

Basis Reference(s):

Niagara Mohawk Power Corporation Memo File Code NMP 31027, Exposure Guidelines for Unusual/Accident Conditions

1.5 Refueling Accidents

1.5.1 Unusual Event

Spent fuel pool/ reactor cavity water level cannot be restored and maintained above the spent fuel pool low water level alarm.

NUMARC IC:

Unexpected increase in plant radiation or airborne concentration.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

The above event has a long lead time relative to the potential for radiological release outside the site boundary, thus impact to public health and safety is very low. However, in light of recent industry events, classification as an Unusual Event is warranted as a precursor to a more serious event.

The spent fuel pool low water level alarm setpoint is actuated by LS-26C which alarms at El 338' 0". The definition of "... cannot be restored and maintained above ..." allows the operator to visually observe the low water level condition, if possible, and to attempt water level restoration instructions as long as water level remains above the top of irradiated fuel. Water level restoration instructions are performed in accordance with procedure N1-SOP-20, Loss of SFP/Rx Cavity Level/Decay Heat Removal.

When the fuel transfer canal is directly connected to the spent fuel pool and reactor cavity, there could exist the possibility of uncovering irradiated fuel in the fuel transfer canal. Therefore, this EAL is applicable for conditions in which irradiated fuel is being transferred to and from the RPV and spent fuel pool.

PEG Reference(s):

AU2.1

Basis Reference(s):

None

1.5.2 Alert

Imminent report of actual visual observation of irradiated fuel uncovered

NUMARC IC:

Major damage to irradiated fuel or loss of water level that has or will result in the uncovering of irradiated fuel outside the reactor vessel.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

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

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

Thus, an Alert Classification for this event is appropriate. Escalation, if appropriate, would occur by Emergency Director judgment in EAL Category 9.0.

There is no indication that water level in the spent fuel pool has dropped to the level of the fuel other than by visual observation by personnel on the refueling floor. When the fuel transfer canal is directly connected to the spent fuel pool and reactor cavity, there could exist the possibility of uncovering irradiated fuel in the fuel transfer canal. Therefore, this EAL is applicable for conditions in which irradiated fuel is being transferred to and from the RPV and spent fuel pool. NI-SOP-20, Loss of SFP/Rx Cavity Level/Decay Heat Removal, provides appropriate instructions to report a visual observation of irradiated fuel uncovery.

1.5.2 (Cont)

This EAL applies to spent fuel requiring water coverage and is not intended to address spent fuel which is licensed for dry storage.

PEG Reference(s):

AA2.2

Basis Reference(s):

1. NUREG-0818, Emergency Action Levels for Light Water Reactors
2. NUREG/CR-4982, Severe Accident in Spent Fuel Pools in Support of Generic Safety Issue 82, July 1987
3. NRC Information Notice No. 90-08, KR-85 Hazards from Decayed Fuel
4. N1-SOP-20, Loss of SFP/Rx Cavity Level/Decay Heat Removal

2.0 REACTOR PRESSURE VESSEL (RPV)

The reactor pressure vessel provides a volume for the coolant which covers the reactor core. The RPV and associated pressure piping (reactor coolant system) together provide a barrier to limit the release of radioactive material should the reactor fuel cladding integrity fail.

There are two RPV parameters which are indicative of conditions which may pose a threat to RPV or fuel cladding integrity:

- RPV Water Level: RPV water level is directly related to the status of adequate core cooling, and therefore fuel cladding integrity. Excessive (> Tech. Spec.) reactor coolant to drywell leakage indications are utilized to indicate potential pipe cracks which may propagate to an extent threatening fuel clad, RPV and primary containment integrity. Conditions under which all attempts at establishing adequate core cooling have failed require primary containment flooding.
- Reactor Power/Reactivity Control: The inability to control reactor power below certain levels can pose a direct threat to reactor fuel, RPV and primary containment integrity.

2.1 RPV Water Level

2.1.1 Unusual Event

Unidentified drywell leakage ≥ 10 gpm
OR
Reactor coolant to drywell identified leakage > 25 gpm

2.1.1 (Cont)

NUMARC IC:

RCS leakage

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

The conditions of this EAL may be a precursor of more serious conditions and, as a result, is considered to be a potential degradation of the level of safety of the plant. The 10 gpm value for the unidentified drywell leakage was selected because it is observable with normal Control Room indications and is consistent with the Technical Specification threshold for leaks beyond which increased risk of crack propagation exists. The 25 gpm value for identified reactor coolant to drywell leakage is set at a higher value because of the significance of identified leakage in comparison to unidentified or pressure boundary leakage.

Only operating modes in which there is fuel in the reactor coolant system and the system is pressurized are specified.

PEG Reference(s):

SU5.1

Basis Reference(s):

None

2.1.2 Site Area Emergency

RPV water level cannot be restored and maintained > -84 in. (TAF)

NUMARC IC:

Loss of reactor vessel water level has or will uncover fuel in the reactor vessel.

FPB Loss/Potential Loss:

Fuel Clad Potential Loss, RCS Loss

2.1.2 (Cont)

Mode Applicability:

Power Operation, Hot Shutdown, Cold Shutdown, Refuel

Basis:

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

Uncovery of the fuel irrespective of the event that causes fuel uncovery is justification alone for declaring a Site Area Emergency. This includes events that could lead to fuel uncovery in any plant operating mode including cold shutdown and refuel. Escalation to a General Emergency occurs through radiological effluence addressed in EAL 1.3.3 for drywell radiation and in the EALs defined for Category 5.0, Radioactivity Release.

The terminology of "cannot be restored and maintained" is intended to be consistent with the interpretation that:

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

This definition would require the emergency classification be made prior to water level dropping below TAF if, based on an evaluation of the current trend of RPV water level and in consideration of current and future injection system performance, that RPV water level will not likely be restored and maintained above TAF. This definition, however, also provides the latitude, based on that same evaluation, not to declare the SAE for those situations in which the RPV water level transiently drops below TAF in the process of RPV water level restoration.

2.1.2 (Cont)

PEG Reference(s):

SS5.1
FC2.1
RCS4.1

Bases Reference(s):

1. N1-ODP-PRO-0302, EOP Technical Bases

2.1.3 General Emergency

Drywell Flooding required

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel Clad Loss, RCS Loss, Containment Potential Loss

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

The condition in this EAL represents a potential for imminent melt sequences which, if not corrected, could lead to RPV failure and increased potential for primary containment failure. If the EOPs have been ineffective in restoring RPV water level above the top of active fuel, loss of the fuel clad barrier may be imminent. Therefore, declaration of a General Emergency is appropriate when entry to the Drywell Flooding EOP is required.

PEG Reference(s):

PC4.1

Basis Reference(s):

1. N1-ODP-PRO-0302, EOP Technical Bases

2.2 Reactor Power / Reactivity Control

2.2.1 Alert

Any RPS scram setpoint has been exceeded
AND
Automatic scram fails to result in a control rod pattern which assures reactor shutdown under all conditions without boron.

NUMARC IC:

Failure of Reactor Protection system instrumentation to complete or initiate an automatic reactor trip once a Reactor Protection system setpoint has been exceeded and manual trip was successful while in power operations or hot standby.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power Operation

Basis:

This condition indicates a failure of the Reactor Protection System to scram the reactor automatically, and maintain it in a shutdown under all conditions without boron. This is consistent with the entry conditions into N1-EOP-03, "Failure to Scram".

If a manual scram does not result in reactor power being reduced below the APRM downscale setpoint (6%) or torus temperature exceeds the Boron Injection Initiation Temperature (110°F) escalation to a Site Area Emergency is required. A manual scram is any set of actions by the reactor operators at the reactor control console which causes control rods to be rapidly inserted into the core and brings the reactor subcritical including manual scram push buttons, ARI and mode switch.

2.2.1 (Cont)

PEG Reference(s):

SA2.1

Basis Reference(s):

1. N1-ODP-PRO-0302, EOP Technical Bases
2. "Methodology for Development of Emergency Action Levels" NUMARC/NESP-007 Rev 2-Questions and Answers, June 1993

2.2.2 Site Area Emergency

Any RPS scram setpoint has been exceeded
AND
Automatic and manual scrams fail to result in a control rod pattern which assures reactor shutdown under all conditions without boron.
AND Either:
Reactor power >6%
OR
Torus temperature >110°F

NUMARC IC:

Failure of Reactor Protection system instrumentation to complete or initiate an automatic reactor trip once a Reactor Protection system setpoint has been exceeded and manual scram trip was not successful.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power Operation

Basis:

This condition indicates failure of the Reactor Protection System to shut down the reactor (automatically or manually) and maintain it shutdown under all conditions without boron. Under these conditions, the reactor is producing more heat than can be removed using available safety systems. A Site Area Emergency is indicated because conditions exist leading to imminent or potential loss of both the fuel clad and the primary containment.

The failure of automatic initiation of a reactor scram followed by an unsuccessful manual initiating actions which can be rapidly taken at the reactor control console does not, by itself, lead to imminent loss of either fuel clad or primary containment barriers. It is the continued criticality under conditions requiring a rector scram along with the continued addition of heat to the containment which poses the imminent threat to primary containment or fuel clad barriers. In accordance with the EOPs, Liquid Poison System is initiated based on heat addition to containment in excess of safety system capability under failure to scram conditions.

2.2.2 (Cont)

An immediate manual scram is any set of actions by the reactor operator at the reactor control console which causes control rods to be rapidly inserted into the core and brings the reactor subcritical, including manual scram pushbuttons, ARI and mode switch.

PEG Reference(s):

SS2.1

Basis Reference(s):

1. N1-ODP-PRO-0302, EOP Technical Bases
2. "Methodology for Development of Emergency Action Level" NUMARC/NESP-007 Revision 2 - Questions and Answers, June 1993

2.2.3 General Emergency

Any RPS scram setpoint has been exceeded
AND
Automatic and manual scrams fail to result in a control rod pattern which assures reactor shutdown under all conditions without boron
AND Either:
RPV water level cannot be restored and maintained > -108 in.
OR
Torus temperature and RPV pressure cannot be maintained < HCTL.

NUMARC IC:

Failure of the Reactor Protection System to complete an automatic trip and manual trip was not successful and there is indication of an extreme challenge to the ability to cool the core.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power Operation

Basis:

Under the conditions of this EAL, the efforts to bring the reactor subcritical have been unsuccessful and, as a result, the reactor is producing more heat than the maximum decay heat load for which the safety systems were designed.

2.2.3 (Cont)

An extreme challenge to the ability to cool the core is indicated when RPV water level cannot be restored and maintained above the Minimum Steam Cooling RPV Water Level (-108 in.). This RPV water level is used in the EOPs to define the lowest RPV water level in a failure-to-scram event above which adequate core cooling can be maintained without sufficient steam cooling flow. This situation could be precursor for a core melt sequence.

An extreme challenge to the primary containment is indicated when the inability to remove heat during the early stages of this sequence results in heatup of the containment. The Heat Capacity Temperature Limit (HCTL) is a measure of the maximum heat load which the primary containment can withstand. This situation could be a precursor for containment failure.

In this situation, core degradation can occur rapidly For this reason, the General Emergency declaration is intended to be anticipatory of the loss of two fission product barriers and a potential loss of a third thus permitting the maximum offsite intervention time.

An immediate manual scram is any set of actions by the reactor operator at the reactor control console which causes control rods to be rapidly inserted into the core and brings the reactor subcritical including manual scram push buttons, ARI and mode switch.

PEG Reference(s):

SG2.1

Basis Reference(s):

1. N1-ODP-PRO-0302, EOP Technical Bases

3.0 PRIMARY CONTAINMENT (PC)

The primary containment structure is a pressure suppression system. It forms a fission product barrier designed to limit the release of radioactive fission products generated from any postulated accident so as to preclude exceeding offsite exposure limits.

The primary containment structure is a low leakage pressure suppression system housing the reactor pressure vessel (RPV), the reactor coolant recirculation piping and other branch connections of the reactor primary system. The primary containment is equipped with isolation valves for most systems which penetrate the containment boundary. These valves automatically actuate to isolate systems under emergency conditions.

3.0 (Cont)

There are four primary containment parameters which are indicative of conditions which may pose a threat to primary containment integrity or indicate degradation of RPV or reactor fuel integrity.

- Primary Containment Pressure: Excessive primary containment pressure is also indicative of either primary system leaks into containment or loss of containment cooling function. Primary containment pressures at or above specified limits pose a direct threat to primary containment integrity and the pressure suppression function.

- Torus Temperature: Excessive torus water temperatures can result in a loss of the pressure suppression capability of containment and thus be indicative of severely degraded RPV and containment conditions.

- Combustible Gas Concentrations: The existence of combustible gas concentrations in containment pose a severe threat to containment integrity and are indicative of severely degraded reactor core and/or RPV conditions.

- Containment Isolation Status: The existence of an unisolable steam line break outside containment constitutes a loss of containment integrity as well as a loss of RCS boundary. Should a loss of fuel cladding integrity occur, the potential for release of large amounts of radioactive materials to the environment exists.

3.1 Containment Pressure

3.1.1 Alert

Drywell pressure cannot be maintained < 3.5 psig due to coolant leakage

NUMARC IC:

N/A

FPB Loss/Potential Loss:

RCS Loss

Mode Applicability:

Power Operation, Hot Shutdown

3.1.1 (Cont)

Basis:

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

PEG Reference(s):

RCS2.1

Basis Reference(s):

1. N1-ARP-F1, annunciator 1-5
2. N1-ARP-F4, annunciator 1-4
3. N1-EOP-4, Primary Containment Control

3.1.2 Site Area Emergency

Drywell pressure cannot be maintained < 3.5 psig
AND
Coolant activity > 300 μCi/gm I - 131 equivalent

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel Clad Loss, RCS Loss

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

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

3.1.2 (Cont)

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

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

PEG Reference(s):

FC1.1
RCS2.1

Bases Reference(s):

1. N1-ARP-F1, annunciator 1-5
2. N1-ARP-F4, annunciator 1-4
3. General Electric NEDO-22215, Procedures for the Determination of the Extent of Core Damage Under Accident Conditions
4. N1-EOP-4, Primary Containment Control

3.1.3 General Emergency

Primary containment venting is required due to PCPL

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel Clad Loss, RCS Loss, Containment Loss

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

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

3.1.3 (Cont)

PEG Reference(s):

PC1.3
PC2.2

Bases Reference(s):

1. N1-ODP-PRO-0302, EOP Technical Bases

3.2 Torus Temperature

3.2.1 Site Area Emergency

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

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

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

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

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

3.2.1 (Cont)

PEG Reference(s):

SS4.1

Basis Reference(s):

1. Nine Mile Point Nuclear Station Unit 1 Appendix 'R' Review Safe Shutdown Analysis, Figure V-1

   Addresses: "Hot Shutdown Systems"
   "Functional Perf. Criteria Req. for Station Shutdown"

3.3 Combustible Gas Concentration

3.3.1 Site Area Emergency

≥ 4% H_2 exists in DW or torus

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel Clad Loss, RCS Loss

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

4% hydrogen concentration is the lowest hydrogen concentration which, in the presence of sufficient oxygen, can support upward flame propagation. This hydrogen concentration is generally considered the lower boundary of the range in which localized deflagrations may occur. To generate such a concentration of combustible gas, loss of both the fuel clad and RCS barriers must have occurred. Therefore, declaration of a Site Area Emergency is warranted.

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

3.3.1 (Cont)

PEG Reference(s):

SS5.2

Basis Reference(s):

1. N1-ODP-PRO-0302, EOP Technical Bases

3.3.2 General Emergency

Primary containment venting is required due to combustible gas concentrations

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel Clad Loss, RCS Loss, Containment Loss

Mode Applicability:

All

Basis:

6% hydrogen concentration in the presence of 5% oxygen concentration is the lowest concentration at which a deflagration inside of the primary containment could occur. When hydrogen and oxygen concentrations reach or exceed combustible limits, imminent loss of the containment barrier exists. To generate such levels of combustible gas, loss of the fuel clad and RCS barriers must have occurred. Venting of the containment irrespective of the offsite radioactive release rate is required by EOPs for this condition.

PEG Reference(s):

PC1.4
PC2.2

Basis Reference(s):

1. N1-ODP-PRO-0302, EOP Technical Bases

3.4 Containment Isolation Status

3.4.1 Site Area Emergency

MSL, EC steam line or Reactor Water Clean-up Isolation failure

AND

A release pathway, outside normal process system flowpaths from the unisolable system, exists outside primary containment.

NUMARC IC:

N/A

FPB Loss/Potential Loss:

RCS Loss, Containment Loss

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

This EAL covers containment isolation failures allowing a direct flow path to the environment. A release pathway outside primary containment exists when steam flow is not prevented by downstream isolations. In the case of a failure of both isolation valves to close but in which no downstream flowpath exists, declaration under this EAL would not be required. The conditions of this EAL represent the loss of both the RCS barrier and the primary containment barrier and thus justifies declaration of a Site Area Emergency.

PEG Reference(s):

PC2.1

Basis Reference(s):

None

3.4.2 General Emergency

MSL, EC steam line isolation failure or Reactor Water Clean-up isolation failure

AND

A release pathway, outside normal process system flowpaths from the unisolable system, exists outside primary containment

AND any:

- Coolant activity > 300 μCi/gm I-131 equivalent
- RPV water level < -84 in. (TAF)
- DW radiation > 3000 R/hr

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel Clad Loss/Potential Loss, RCS Loss, Containment Loss

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

The conditions of this EAL include the containment isolation failures allowing a direct flow path to the environment. A release pathway outside primary containment exists when steam flow is not prevented by downstream isolations. In the case of a failure of both isolation valves to close but in which no downstream flowpath exists, declaration under this EAL would not be required. Containment isolation failures which result in a release pathway outside primary containment are the bases for declaration of Site Area Emergency in EAL 3.4.1.

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

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

3.4.2 (Cont)

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

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

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell High Range Radiation Monitors have a range of 0 to E8 R/hr on recorder RR 201.7-36C pen 1 and 2. They are installed in the following drywell locations:

RAm 201.7-36 Az 340°, El 263' 6"

RAm 201.7-37 Az 310°, EL 301' 0"

PEG Reference(s):

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

3.4.2 (Cont)

Basis Reference(s):

1. General Electric NEDO-22215, Procedures for the Determination of the Extent of Core Damage Under Accident Conditions

2. N1-ODP-PRO-0302, EOP Technical Bases

3. N1-RG197-EIL1, Important Design Features of Regulatory Guide 1.97 Instruments

4. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications, Amendment 72, 76, Table 3.6.11-1

5. Calculation 1H21C003, Rev 0

4.0 SECONDARY CONTAINMENT (SC)

The secondary containment is comprised of the reactor building and associated ventilation, isolation and effluent systems. The secondary containment serves as an effective fission product barrier and is designed to minimize any ground level release of radioactive materials which might result from a serious accident.

The reactor building provides secondary containment during reactor operation and serves as primary containment when the reactor is shutdown and the drywell is open, as during refueling. Because the secondary containment is an integral part of the complete containment system, conditions which pose a threat to vital equipment located in the secondary containment are classifiable as emergencies.

There are two secondary containment parameters which are indicative of a direct release into secondary containment:

- Secondary Containment Temperatures: Abnormally high secondary containment area temperatures can also pose a threat to the operability of vital equipment located inside secondary containment including RPV water level instrumentation. High area temperatures may limit personnel accessibility to vital areas. High area temperatures may also be indicative of either primary system discharges into secondary containment or fires.

- Secondary Containment Area Radiation Levels: Abnormally high area radiation levels in secondary containment, although not necessarily posing a threat to equipment operability, may pose a threat to personnel safety and the ability to operate vital equipment due to a lack of accessibility. Abnormally high area radiation levels may also be the result of a primary system discharging into the secondary containment and be indicative of precursors to significant radioactivity release to the environment.

4.1 Reactor Building Temperature

4.1.1 Site Area Emergency

Primary system is discharging outside PC
AND
RB general area temperatures are > 135°F in two or more areas,
N1-EOP-5

NUMARC IC:

N/A

FPB Loss/Potential Loss:

RCS Loss, Containment Loss

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

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

PEG Reference(s):

PC2.3
RCS1.3

Basis Reference(s):

1. N1-ODP-PRO-0302, EOP Technical Bases

2. N1-EOP-5

4.1.2 General Emergency

Primary system is discharging outside PC
AND
RB general area temperatures are >135°F in two or more areas, N1-EOP-5

AND any:
- Coolant activity > 300 µCi/gm I-131 equivalent
- RPV water level < -84 in. (TAF)
- DW radiation > 3000 R/hr

4.1.2 (Cont)

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel Clad Loss/Potential Loss, RCS Loss, Containment Loss

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

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

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

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

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

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

4.1.2 (Cont)

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell High Range Radiation Monitors have a range of 0 to E8 R/hr on recorder RR 201.7-36C pen 1 and 2. They are installed in the following drywell locations:

RAm 201.7-36 Az 340°, El 263' 6"

RAm 201.7-37 Az 310°, EL 301' 0"

PEG Reference(s):

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

Basis Reference(s):

1. N1-ODP-PRO-0302, EOP Technical Bases
2. General Electric NEDO-22215, Procedures for the Determination of the Extent of Core Damage Under Accident Conditions
3. N1-RG197-EIL1, Important Design Features of Regulatory Guide 1.97 Instruments
4. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications, Amendment 72, 76, Table 3.6.11-1
5. Calculation 1H21C003, Rev 0
6. N1-EOP-5

4.2 Reactor Building Radiation Level

4.2.1 Site Area Emergency

Primary system is discharging outside PC
AND
RB area radiation levels are > 8.0 R/hr in two or more areas, N1-EOP-5

NUMARC IC:

N/A

FPB Loss/Potential Loss:

RCS Loss, Containment Loss

Mode Applicability:

Power Operation, Hot Shutdown

4.2.1 (Cont)

Basis:

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

PEG Reference(s):

PC2.3
RCS1.3

Basis Reference(s):

1. N1-ODP-PRO-0302, EOP Technical Bases

2. N1-EOP-5

4.2.2 General Emergency

Primary system is discharging outside PC
AND
RB area radiation levels are > 8.0 R/hr in two or more areas, N1-EOP-5
AND any:
- Coolant activity > 300 µCi/gm I-131 equivalent
- RPV water level < -84 in. (TAF)
- DW radiation > 3000 R/hr

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel Clad Loss/Potential Loss, RCS Loss, Containment Loss

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

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

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

4.2.2 (Cont)

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

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

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

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell High Range Radiation Monitors have a range of 0 to E8 R/hr on recorder RR 201.7-36C pen 1 and 2. They are installed in the following drywell locations:

RAm 201.7-36 Az 340°, El 263' 6"

RAm 201.7-37 Az 310°, EL 301' 0"

PEG Reference(s):

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

4.2.2 (Cont)

Basis Reference(s):

1. N1-ODP-PRO-0302, EOP Technical Bases
2. General Electric NEDO-22215, Procedures for the Determination of the Extent of Core Damage Under Accident Conditions
3. N1-RG197-EIL1, Important Design Features of Regulatory Guide 1.97 Instruments
4. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications, Amendment 72, 76, Table 3.6.11-1
5. Calculation 1H21C003, Rev 0
6. N1-EOP-5

5.0 RADIOACTIVITY RELEASE

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

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

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

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

5.1 Effluent Monitors

5.1.1 Unusual Event

A valid reading from an unplanned release on any monitors from Table 3 "UE" column for > 60 min. unless sample analysis can confirm release rates < 2 x technical specifications within this time period.

Table 3
Effluent Monitor Classification Thresholds

Monitor	UE	Alert	SAE	GE
Stack (RN10A/B)	≥300 cps	≥3.0E4 cps	≥5.0 E6 cps	N/A
EC Vent	≥10 mR/hr	≥30 mR/hr	≥310 mR/hr	N/A
SW Effluent	≥900 cpm	≥90,000 cpm	N/A	N/A
RW Discharge	≥2 x batch	≥200 x batch	N/A	N/A

NUMARC IC:

Any unplanned release of gaseous or liquid radioactivity to the environment that exceeds two times the radiological Technical Specifications for 60 minutes or longer.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

Valid means that a radiation monitor reading has been confirmed by the operators to be correct. Unplanned releases in excess of two times the site technical specifications that continue for 60 minutes or longer represent an uncontrolled situation and hence, a potential degradation in the level of safety. The final integrated dose (which is very low in the Unusual Event emergency class) is not the primary concern; it is the degradation in plant control implied by the fact that the release was not isolated within 60 minutes. Therefore, it is not intended that the release be averaged over 60 minutes. For example, a release of 4 times T/S for 30 minutes does not exceed this initiating condition. Further, the Emergency Director should not wait until 60 minutes has elapsed, but should declare the event as soon as it is determined that the release duration has or will likely exceed 60 minutes.

5.1.1 (Cont)

Two times the monitors alarm setpoints have been selected for use in this EAL. The alarm setpoints for the listed monitors are conservatively set to ensure Technical Specification radioactivity release limits are not exceeded. The value shown for the UE level is two times the high alarm setpoint for the Emergency Condenser vent monitor and the Service Water effluent monitor, and two times the high-high alarm setpoint for the main stack (OGESM) monitor.

The following radiation monitors are not included in this EAL:

Reactor Building Vent Monitors: Reactor building ventilation discharges to the main stack. Radioactivity release from the reactor building would, therefore, be assessed by the main stack monitor.

Containment Spray Raw Water Monitors: These monitors detect radiation in the discharge from their respective processes. The monitors are located upstream of the Service Water monitor. Therefore, the Service Water radiation monitor adequately detects offsite radioactivity releases from these systems.

PEG Reference(s):

AU1.1

Basis Reference(s):

1. N1-OP-50B Process Radiation Monitoring System
2. N1-ARP-H1 Annunciator H1-1-8
3. N1-CSP-Q308, Attachment 2
4. N1-CSP-Q215, Service Water Alarm Setpoint Determination, Attachment 2
5. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications
6. Calculation 1H21C003, Rev 0

5.1.2 Alert

A valid reading from an unplanned release on any monitors from Table 3 "Alert" column for > 15 min. unless dose assessment can confirm releases are below Table 4 column "Alert" within this time period.

Table 3
Effluent Monitor Classification Thresholds

Monitor	UE	Alert	SAE	GE
Stack (RN10A/B)	≥300 cps	≥3.0E4 cps	≥5.0 E6 cps	N/A
EC Vent	≥10 mR/hr	≥30 mR/hr	≥310 mR/hr	N/A
SW Effluent	≥900 cpm	≥90,000 cpm	N/A	N/A
RW Discharge	≥2 x batch	≥200 x batch	N/A	N/A

Table 4
Dose Projection/Env. Measurement Classification Thresholds

	Alert	SAE	GE
TEDE	10 mRem	100 mRem	1000 mRem
CDE Thyroid	N/A	500 mRem	5000 mRem
External exposure rate	10 mRem	100 mRem/hr	1000 mRem/hr
Thyroid exposure rate (for 1 hr. of inhalation)	N/A	500 mRem/hr	5000 mRem/hr

NUMRAC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

The following radiation monitors are not included in this EAL:

5.1.2 (Cont)

Reactor Building Vent Monitors: Reactor building ventilation discharges to the main stack. Radioactivity release from the reactor building would, therefore, be assessed by the main stack monitor.

Containment Spray Raw Water Monitors: These monitors detect radiation in the discharge from their respective processes. The monitors are located upstream of the Service Water monitor. Therefore, the Service Water radiation monitor adequately detects offsite radioactivity releases from these systems.

PEG Reference(s):

AA1.1

Basis Reference(s):

1. N1-OP-50B, Process Radiation Monitoring System
2. N1-ARP-H1, Annunciator H1-1-8
3. N1-CSP-Q308, Attachment 2
4. N1-CSP-Q215, Service Water Alarm Setpoint Determination, Attachment 2
5. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications
6. Calculation 1H21C003, Rev 0

5.1.3 Site Area Emergency

A valid reading from an unplanned release on any monitors from Table 3 "SAE" column for > 15 min. unless dose assessment can confirm releases are below Table 4 column "SAE" within this time period.

Table 3
Effluent Monitor Classification Thresholds

Monitor	UE	Alert	SAE	GE
Stack (RN10A/B)	≥300 cps	≥3.0E4 cps	≥5.0 E6 cps	N/A
EC Vent	≥10 mR/hr	≥30 mR/hr	≥310 mR/hr	N/A
SW Effluent	≥900 cpm	≥90,000 cpm	N/A	N/A
RW Discharge	≥2 x batch	≥200 x batch	N/A	N/A

Table 4
Dose Projection/Env. Measurement Classification Thresholds

	Alert	SAE	GE
TEDE	10 mRem	100 mRem	1000 mRem
CDE Thyroid	N/A	500 mRem	5000 mRem
External exposure rate	10 mRem/	100 mRem/hr	1000 mRem/hr
Thyroid exposure rate (for 1 hr. of inhalation)	N/A	500 mRem/hr	5000 mRem/hr

5.1.3 (Cont)

NUMRAC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

Valid means that a radiation monitor reading has been confirmed by the operators to be correct. The SAE values of Table 5.1 are based on the boundary dose resulting from an actual or imminent release of gaseous radioactivity that exceeds 100 mR whole body or 500 mR child thyroid for the actual or projected duration of the release. The 100 mR integrated dose is based on the proposed 10CFR20 annual average population exposure. The 500 mR integrated child thyroid dose was established in consideration of the 1:5 ratio of the EPA Protective Action Guidelines for whole body thyroid.

These values provide a desirable gradient (one order of magnitude) between the Alert, Site Area Emergency, and General Emergency classifications. It is deemed that exposures less than this limit are not consistent with the Site Area Emergency class description.

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

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

The values are derived from Calculation 1H21C003, Rev. 0.

PEG Reference(s):

AS1.1

5.1.3 (Cont)

Basis Reference(s):

1. N1-OP-50B, Process Radiation Monitoring System
2. N1-ARP-H1, Annunciator H1-1-8
3. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications
4. Calculation 1H21C003, Rev. 0

5.2 Dose Projections/Environmental Measurements

5.2.1 Unusual Event

Confirmed sample analyses for gaseous or liquid release rates > 2 x technical specifications limits for > 60 min.

NUMARC IC:

Any unplanned release of gaseous or liquid radioactivity to the environment that exceeds two times the radiological Technical Specifications for 60 minutes or longer.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

Confirmed sample analyses in excess of two times the site technical specifications that continue for 60 minutes or longer represent an uncontrolled situation and hence, a potential degradation in the level of safety. The final integrated dose (which is very low in the Unusual Event emergency class) is not the primary concern; it is the degradation in plant control implied by the fact that the release was not isolated within 60 minutes. Therefore, it is not intended that the release be averaged over 60 minutes. For example, a release of 4 times T/S for 30 minutes does not exceed this initiating condition. Further, the Emergency Director should not wait until 60 minutes has elapsed, but should declare the event as soon as it is determined that the release duration has or will likely exceed 60 minutes.

5.2.1 (Cont)

PEG Reference(s):

AU1.2

Basis Reference(s):

1. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications, Article 3.6.15.a(1) and Article 3.6.15.b(1)(a) and (b)

5.2.2 Alert

Confirmed sample analyses for gaseous or liquid release rates > 200 x technical specifications limits for > 15 min.

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

Confirmed sample analyses in excess of two hundred times the site technical specifications that continue for 15 minutes or longer represent an uncontrolled situation and hence, a potential degradation in the level of safety. This event escalates from the Unusual Event by increasing the magnitude of the release by a factor of 100 over the Unusual Event level (i. e., 200 times Technical Specifications). Prorating the 500 mR/yr bases of the 10CFR20 non-occupational DAC limits for both time (8766 hr/yr) and the 200 multiplier, the associated site boundary dose rate would be 10 mR/hr. The required release duration was reduced to 15 minutes in recognition of the increased severity.

PEG Reference(s):

AA1.2

Basis Reference(s):

1. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications, Article 3.6.15.a(1) and Article 3.6.15.b(1)(a) and (b)

5.2.3 Alert

Dose projections or field surveys resulting from actual or imminent release which indicate doses / dose rates > Table 4 column "Alert" at the site boundary or beyond

Table 4
Dose Projection/Env. Measurement Classification Thresholds

	Alert	SAE	GE
TEDE	10 mRem	100 mRem	1000 mRem
CDE Thyroid	N/A	500 mRem	5000 mRem
External exposure rate	10 mRem/hr	100 mRem/hr	1000 mRem/hr
Thyroid exposure rate (for 1 hr. of inhalation)	N/A	500 mRem/hr	5000 mRem/hr

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

Offsite integrated doses in excess of 10 mR TEDE or dose rates in excess of 10 mR/hr TEDE represent an uncontrolled situation and hence, a potential degradation in the level of safety. This event escalates from the Unusual Event by increasing the magnitude of the release by a factor of 100 over the Unusual Event level (i. e., 200 times Technical Specifications). Prorating the 500 mR/yr bases of 10CFR20 for both time (8766 hr/yr) and the 200 multiplier, the associated site boundary dose rate would be 10 mR/hr.

5.2.3 (Cont)

Basis (Cont)

As previously stated, the 10 mR/hr value is based on a proration of 200 times the 500 mR/yr bases of 10CFR20, rounded down to 10 mR/hr.

Imminent is intended to mean that a release will occur.

PEG Reference(s):

AA1.2

Basis Reference(s):

1. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications, Article 3.6.15.a(1) and Article 3.6.15.b(1)(a) and (b)

5.2.4 Site Area Emergency

Dose projections or field surveys resulting from actual or imminent release which indicate doses / dose rates > Table 4 column "SAE" at the site boundary or beyond

Table 4
Dose Projection/Env. Measurement Classification Thresholds

	Alert	SAE	GE
TEDE	10 mRem	100 mRem	1000 mRem
CDE Thyroid	N/A	500 mRem	5000 mRem
External exposure rate	10 mRem/hr	100 mRem/hr	1000 mRem/hr
Thyroid exposure rate (for 1 hr. of inhalation)	N/A	500 mRem/hr	5000 mRem/hr

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

5.2.4 (Cont)

Mode Applicability:

All

Basis:

The 100 mR integrated TEDE dose in this EAL is based on the proposed 10CFR20 annual average population exposure. This value also provides a desirable gradient (one order of magnitude) between the Alert, Site Area Emergency, and General Emergency classes. It is deemed that exposures less than this limit are not consistent with the Site Area Emergency class description. The 500 mR integrated CDE thyroid dose was established in consideration of the 1:5 ratio of the EPA Protective Action Guidelines for whole body thyroid. In establishing the dose rate emergency action levels, a duration of one hour is assumed. Therefore, the dose rate EALs are based on a site boundary dose rate of 100 mR/hr TEDE or 500 mR/hr CDE thyroid, whichever is more limiting.

Imminent is intended to mean that a release will occur.

PEG Reference(s):

AS1.3
AS1.4

Basis Reference(s):

1. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications

5.2.5 General Emergency

Dose projections or field surveys resulting from actual or imminent release which indicate doses / dose rates > Table 4 column "GE" at the site boundary or beyond

Table 4
Dose Projection/Env. Measurement Classification Thresholds

	Alert	SAE	GE
TEDE	10 mRem	100 mRem	1000 mRem
CDE Thyroid	N/A	500 mRem	5000 mRem
External exposure rate	10 mRem/hr	100 mRem/hr	1000 mRem/hr
Thyroid exposure rate (for 1 hr. of inhalation)	N/A	500 mRem/hr	5000 mRem/hr

5.2.5 (Cont)

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

The General Emergency values of Table 5.2 are based on the boundary dose resulting from an actual or imminent release of gaseous radioactivity that exceeds 1000 mR TEDE or 5000 mR CDE thyroid for the actual or projected duration of the release. The 1000 mR TEDE and the 5000 mR CDE thyroid integrated dose are based on the EPA protective action guidance which indicates that public protective actions are indicated if the dose exceeds 1 rem TEDE or 5 rem CDE thyroid. This is consistent with the emergency class description for a General Emergency. This level constitutes the upper level of the desirable gradient for the Site Area Emergency. Actual meteorology is specifically identified since it gives the most accurate dose assessment. Actual meteorology (including forecasts) should be used whenever possible. In establishing the dose rate emergency action levels, a duration of one hour is assumed. Therefore, the dose rate EALs are based on a site boundary dose rate of 1000 mR/hr TEDE or 5000 mR/hr CDE thyroid, whichever is more limiting.

Imminent is intended to mean that a release will occur.

PEG Reference(s):

AG1.3
AG1.4

Basis Reference(s):

1. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications

6.0 ELECTRICAL FAILURES

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

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

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

6.1 Loss of AC Power Sources

6.1.1 Unusual Event

Loss of power for > 15 min. to all:

- T-101N
- T-101S
- T-10 backfed from offsite through T-1 or T-2

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

6.1.1 (Cont)

Backfeeding of the Station Transformer T10 has been included to allow for those conditions in which maintenance is being performed on the Station Reserve Transformers or 115 kv system. It is recognized that this is not a readily available source of offsite emergency power under emergency conditions and should only be taken credit for those conditions under which backfeeding has already been established.

PEG Reference(s):

SU1.1

Basis Reference(s):

1. N1-OP-45, Emergency Diesel Generators

2. N1-OP-30, 4.16 Kv, 600V, and 480V House Service

6.1.2 Alert

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

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Cold Shutdown, Refuel, Defuel

Basis:

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

Loss of power to all:

- T-101N
- T-101S
- T-10 backfed through T-1 or T-2 AND failure of both DGs to power emergency buses AND failure to restore power to PB102 or PB103 in ≤ 15 min.
  AND
  Failure of both DGS to power emergency buses
  AND
  Failure to restore power to PB102 or PB103 in ≤ 15 min.

6.1.2 (Cont)

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

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

PEG Reference(s):

SA1.1

Basis Reference(s):

1. N1-OP-30, 4.16 Kv, 600V, and 480V House Service

2. N1-OP-45, Emergency Diesel Generators

6.1.3 Alert

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

- DG102 (PB102)
- DG103 (PB103)
- T-101N
- T-101S

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power Operation, Hot Shutdown

6.1.3 (Cont)

Basis:

The condition indicated by this EAL is the degradation of the offsite power with a concurrent failure of one emergency generator to supply power to its emergency busses. The subsequent loss of this single power source would escalate the event to a Site Area Emergency.

PEG Reference(s):

SA5.1

Basis Reference(s):

1. N1-OP-45, Emergency Diesel Generators

2. N1-OP-30, 4.16 Kv, 600V, and 480V House Service

6.1.4 Site Area Emergency

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

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

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

Loss of power to T-101N and T-101S, and T-10 backfed through T-1 or T-2 AND failure of both DGs to power any emergency buses AND failure to restore power to PB102 or PB103 in ≤ 15 min.

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

6.1.4 (Cont)

PEG Reference(s):

SS1.1

Basis Reference(s):

1. N1-OP-45, Emergency Diesel Generators
2. N1-OP-30 4.16 Kv, 600V, and 480V House Service
3. N1-SOP-18, Station Blackout

6.1.5 General Emergency

Loss of all emergency bus AC power
AND either:
Power restoration to any emergency bus is not likely in ≤ 4 hrs
OR
RPV water level cannot be restored and maintained > -84 in. (TAF)

NUMARC IC:

Prolonged loss of all offsite power and prolonged loss of all onsite AC power with reactor coolant >212 °F.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

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

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

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

6.1.5 (Cont)

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

1. Are there any present indications that core cooling is already degraded to the point that Loss or Potential Loss of fission product barriers is imminent?

2. If there are no present indications of such core cooling degradation, how likely is it that power can be restored in time to assure that a loss of two barriers with a potential loss of the third barrier can be prevented?

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

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

The terminology of "cannot be restored and maintained" is intended to be consistent with the interpretation that:

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

This definition would require the emergency classification be made prior to water level dropping below TAF if, based on an evaluation of the current trend of RPV water level and in consideration of current and future injection system performance, that RPV water level will not likely be restored and maintained above TAF. This definition, however, also provides the latitude, based on that same evaluation, not to declare the SAE for those situations in which the RPV water level transiently drops below TAF in the process of RPV water level restoration.

6.1.5 (Cont)

PEG Reference(s):

SG1.1

Basis Reference(s):

1. N1-OP-45, Emergency Diesel Generators
2. N1-OP-30 4.16 Kv, 600V, and 480V House Service
3. N1-SOP-18, Station Blackout, pg. 1
4. N1-ODP-PRO-0302, EOP Technical Bases

6.2 Loss of DC Power Sources

6.2.1 Unusual Event

< 106 vdc on battery board 11 and 12 for >15 min.

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Cold Shutdown, Refuel

Basis:

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

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

6.2.1 (Cont)

PEG Reference(s):

SU7.1

Basis Reference(s):

1. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications, Basis for articles 3.6.3 and 4.6.3

2. N1-OP-47A, 125 vdc Power System

6.2.2 Site Area Emergency

< 106 vdc on battery board 11 and 12 for > 15 min.

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

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

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

PEG Reference(s):

SS3.1

Basis Reference(s):

1. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications, Basis for articles 3.6.3 and 4.6.3

2. N1-OP-47A, 125 vdc Power System

7.0 EQUIPMENT FAILURES

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

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

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

7.1 Technical Specifications

7.1.1 Unusual Event

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

NUMARC IC:

Inability to reach required shutdown within Technical Specification Limits.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power Operation, Hot Shutdown

7.1.1 (Cont)

Basis:

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

PEG Reference(s):

SU2.1

Basis Reference(s):

1. Radiological Technical Specifications, Appendix A to Facility Operating License No. DPR-63, article 3.0.1

7.2 System Failures or Control Room Evacuation

7.2.1 Unusual Event

Report of main turbine failure resulting in casing penetration or damage to turbine seals or generator seals

NUMARC IC:

Natural and destructive phenomena affecting the protected area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power Operation, Hot Shutdown

7.2.1 (Cont)

Basis:

This EAL is intended to address main turbine rotating component failures of sufficient magnitude to cause observable damage to the turbine casing or to the seals of the turbine generator. Of major concern is the potential for leakage of combustible fluids (lubricating oils) and gases (hydrogen cooling) to the plant environs. Actual fires and flammable gas build up are appropriately classified through other EALs. This EAL is consistent with the definition of an Unusual Event while maintaining the anticipatory nature desired and recognizing the risk to non-safety related equipment.

PEG Reference(s):

HU1.6

Basis Reference(s):

None

7.2.2 Alert

Entry into N1-SOP-9.1, "Control Room evacuation"

NUMARC IC:

Control room evacuation has been initiated.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

With the Control Room evacuated, additional support, monitoring and direction through the Technical Support Center and/or other Emergency Operations Facility is necessary. Inability to establish plant control from outside the Control Room will escalate this event to a Site Area Emergency.

PEG Reference(s):

HA5.1

Basis Reference(s):

1. N1-SOP-9.1, Control Room Evacuation

7.2.3 Alert

Reactor coolant temperature cannot be maintained < 212 °F

NUMARC IC:

Inability to maintain plant in cold shutdown.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Cold Shutdown, Refuel

Basis:

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

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

PEG Reference(s):

SA3.1

Basis Reference(s):

1. Facility Operating License No. DPR-63, Appendix A, Radiological Technical Specifications, Amendment 99, Article 1.1.a

7.2.4 Site Area Emergency

Entry into N1-SOP-9.1, "Control Room Evacuation".
AND
Plant control cannot be established per N1-SOP-9.1, "Control Room Evacuation" in ≤ 15 min.

7.2.4 (Cont)

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

PEG Reference(s):

HS2.1

Basis Reference(s):

1. Generic Letter 88-17, "Loss of Decay Heat Removal"
2. N1-SOP-18, Station Blackout
3. N1-SOP-9.1, Control Room Evacuation

7.3 Loss of Indications/Alarm/Communication Capability

7.3.1 Unusual Event

Unplanned loss of all annunciators or indicators on all panels L, K, H, F, G for > 15 min.
AND
Increased surveillance is required for safe plant operation

NUMARC IC:

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

7.3.1 (Cont)

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

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

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

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

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

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

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

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

7.3.1 (Cont)

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

PEG Reference(s):

SU3.1

Basis Reference(s):

1. N1-OP-42, Process Computer/SPDS

7.3.2 Unusual Event

Loss of all communications capability affecting the ability to either:

Perform routine onsite operations
OR
Notify offsite agencies or personnel

NUMARC IC:

Unplanned loss of all onsite or offsite communications capabilities.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

The purpose of this EAL is to recognize a loss of communications capability that either defeats the plant operations staff ability to perform routine tasks necessary for plant operations or the ability to communicate problems with offsite authorities. The loss of offsite communications ability is expected to be significantly more comprehensive than the condition addressed by 10CFR50.72.

7.3.2 (Cont)

The onsite communications loss must encompass the loss of all means of routine communications, Table 7.1.

Table 7.1
Communications Systems

System	Onsite	Offsite
PBX	x	x
Gaitronics	x	
Portable headsets	x	
Station radios	x	
ENS		x
RECS		x
UHF radios		x

The offsite communications loss must encompass the loss of all means of communications with offsite authorities, Table 7.1. This EAL is intended to be used only when extraordinary means are being utilized to make communications possible (relaying of information from radio transmissions, individuals being sent to offsite locations, etc.).

PEG Reference(s):

SU6.1

Basis Reference(s):

1. N1-OP-51, Communications System

7.3.3 Alert

Unplanned loss of all annunciators or indicators on all panels L, K, H, F, G for > 15 min.
AND
Increased surveillance is required for safe plant operation
AND either:
Plant transient in progress
OR
plant computer and SPDS are unavailable

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

7.3.3 (Cont)

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

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

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

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

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

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

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

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

7.3.3 (Cont)

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

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

PEG Reference(s):

SA4.1

Basis Reference(s):

1. N1-OP-42, Process Computer/SPDS

7.3.4 Site Area Emergency

Loss of all annunciators or indicators on all panels L, K, H, F, G
AND
Plant computer and SPDS are unavailable
AND
Indications to monitor all RPV and primary containment EOP parameters are lost
AND
Plant transient is in progress

NUMARC IC:

Inability to monitor a significant transient in progress.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power Operation, Hot Shutdown

Basis:

This EAL recognizes the inability of the Control Room staff to monitor the plant response to a transient. A Site Area Emergency is considered to exist if the Control Room staff cannot monitor safety functions needed for protection of the public.

Annunciators for this EAL should be limited to include those identified in the Abnormal Operating Procedures, in the Emergency Operating Procedures, and in other EALs (e. g., rad monitors, etc.).

7.3.4 (Cont)

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

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

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

PEG Reference(s):

SS6.1

Basis Reference(s):

1. N1-OP-42, Process Computer/SPDS

2. N1-ODP-PRO-0302, EOP Technical Bases,

8.0 HAZARDS

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

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

- Security Threats: This category includes unauthorized entry attempts into the Protected Area as well as bomb threats and sabotage attempts. Also addressed are actual security compromises threatening loss of physical control of the plant.

- Fire or Explosion: Fires can pose significant hazards to personnel and reactor safety. Appropriate for classification are fires within the site Protected Area or which may affect operability of vital equipment.

8.0 (Cont)

- Man-made Events: Man-made events are those non-naturally occurring events which can cause damage to plant facilities such as aircraft crashes, missile impacts, toxic or flammable gas leaks or explosions from whatever source.

- Natural Events: Events such as hurricanes, earthquakes or tornadoes which have potential to cause damage to plant structures or equipment significant enough to threaten personnel or plant safety.

8.1 Security Threats

8.1.1 Unusual Event

Bomb device or other indication of attempted sabotage discovered within plant Protected Area
OR
Any security event which represents a potential degradation in the level of safety of the plant.

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This EAL is based on the Nine Mile Point Nuclear Station Physical Security and Safeguards Contingency Plans. Security events which do not represent at least a potential degradation in the level of safety of the plant, are reported under 10CFR73.71 or in some cases under 10CFR50.72.

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

PEG Reference(s):

HU4.1
HU4.2

Basis Reference(s):

1. Nine Mile Point Nuclear Station Physical Security and Safeguards Contingency Plans

8.1.2 Alert

Intrusion into plant Protected Area by an adversary
OR
Any security event which represents an actual substantial degradation of the level of safety of the plant.

NUMARC IC:

Security event in a plant protected area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This class of security events represents an escalated threat to plant safety above that contained in the Unusual Event. For the purposes of this EAL, the intrusion by unauthorized personnel inside the Protected Area boundary can be considered a significant security threat. Intrusion into a vital area by unauthorized personnel will escalate this event to a Site Area Emergency.

NMP-1 and NMP-2 Protected Area boundaries are illustrated in USAR Figure 1.2-1. Also see S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89.

PEG Reference(s):

HA4.1
HA4.2

Basis Reference(s):

1. Nine Mile Point Nuclear Station Physical Security and Safeguards Contingency Plans

2. S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89

8.1.3 Site Area Emergency

Intrusion into a plant security vital area by an adversary
OR
Any security event which represents actual or likely failures of plant systems needed to protect the public.

NUMARC IC:

Security event in a plant vital area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This class of security events represents an escalated threat to plant safety above that contained in the Alert in that unauthorized personnel have progressed from the Protected Area to the vital area.

PEG Reference(s):

HS1.1
HS1.2

Basis Reference(s):

1. Nine Mile Point Nuclear Station Physical Security and Safeguards Contingency Plans

8.1.4 General Emergency

Security event which results in either:

Loss of plant control from the Control Room
OR
Loss of remote shutdown capability

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

8.1.4 (Cont)

Mode Applicability:

All

Basis:

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

PEG Reference(s):

HG1.1
HG1.2

Basis Reference(s):

None

8.2 Fire or Explosion

8.2.1 Unusual Event

Confirmed fire in or contiguous to any plant area, Table 5 or Table 6, not extinguished in ≤ 15 min. of Control Room notification

Table 5
Plant Areas

- RadWaste Solidification and Storage Bldg.
- Security West Bldg.

Table 6
Plant Vital Areas

- Reactor Building
- Control Room
- Diesel Generator Engine and Board Rooms
- Battery Rooms
- Battery Board Rooms
- Cable Spreading Room
- Central Alarm Station
- Secondary Alarm Station
- Security Uninterruptible Power System Room
- Telephone Rooms
- Main Steam Isolation Valve Room

NUMARC IC:

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

8.2.1 (Cont)

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

PEG Reference(s):

HU2.1

Basis Reference(s):

1. Nine Mile Point Nuclear Station Physical Security and Safeguards Contingency Plans

2. NUREG 0737, Section II.B.2-2

8.2.2 Alert

Fire or explosion in any plant area, which results in damage to plant equipment or structures needed for safe plant operation, Table 5 or Table 6.

Table 5
Plant Areas

- RadWaste Solidification and Storage Bldg.
- Security West Bldg.

Table 6
Plant Vital Areas

- Reactor Building
- Control Room
- Diesel Generator Engine and Board Rooms
- Battery Rooms
- Battery Board Rooms
- Cable Spreading Room
- Central Alarm Station
- Secondary Alarm Station
- Security Uninterruptible Power System Room
- Telephone Rooms
- Main Steam Isolation Valve Room

8.2.2 (Cont)

NUMARC IC:

Fire or explosion affecting the operability of plant safety systems required to establish or maintain safe shutdown.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

The listed areas contain functions and systems required for the safe shutdown of the plant. The NMP-1 safe shutdown analysis was consulted for equipment and plant areas required for the applicable mode.

With regard to explosions, only those explosions of sufficient force to damage permanent structures or equipment required for safe operation within the identified plant areas should be considered. As used here, an explosion is a rapid, violent, unconfined combustion, or a catastrophic failure of pressurized equipment, that potentially imparts significant energy to nearby structures and materials. No attempt is made in this EAL to assess the actual magnitude of the damage. The declaration of an Alert and the activation of the TSC will provide the Emergency Director with the resources needed to perform damage assessments. The Emergency Director also needs to consider any security aspects of the explosions.

PEG Reference(s):

HA2.1

Basis Reference(s):

1. N1-SOP-9, Fire In Plant
2. Nine Mile Point Nuclear Station FSAR, Section 10
3. NUREG 0737, Section II.B.2-2

8.3 Man-Made Events

8.3.1 Unusual Event

Vehicle crash into or projectile which impacts plant structures or systems within Protected Area boundary

NUMARC IC:

Natural and destructive phenomena affecting the protected area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

The Protected Area boundary is within the security isolation zone and is defined in the site security plan. NMP-1 and NMP-2 Protected Area boundaries are illustrated in USAR Figure 1.2-1. Also, refer to S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89.

This EAL addresses such items as plane, helicopter, train, car, truck, or barge crash, or impact of other projectiles that may potentially damage plant structures containing functions and systems required for safe shutdown of the plant. If the crash is confirmed to affect a plant vital area, the event may be escalated to Alert.

PEG Reference(s):

HU1.4

Basis Reference(s):

1. USAR Figure 1.2-1
2. S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89

8.3.2 Unusual Event

Report by plant personnel of an explosion within Protected Area boundary resulting in visible damage to permanent structures or equipment

NUMARC IC:

Natural and destructive phenomena affecting the protected area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

The Protected Area boundary is within the security isolation zone and is defined in the site security plan. NMP-1 and NMP-2 Protected Area boundaries are illustrated in USAR Figure 1.2-1. Also, refer to S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89.

For this EAL, only those explosions of sufficient force to damage permanent structures or equipment within the Protected Area should be considered. As used here, an explosion is a rapid, violent, unconfined combustion, or a catastrophic failure of pressurized equipment, that potentially imparts significant energy to near by structures and materials. No attempt is made in this EAL to assess the actual magnitude of the damage. The occurrence of the explosion with reports of evidence of damage (e. g., deformation, scorching) is sufficient for declaration. The Emergency Director also needs to consider any security aspects of the explosion.

PEG Reference(s):

HU1.5

Basis Reference(s):

1. USAR Figure 1.2-1

2. S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89

8.3.3 Unusual Event

Report or detection of a release of toxic or flammable gases that could enter or have entered within the Protected Area boundary in amounts that could affect the health of plant personnel or safe plant operation
OR
Report by local, county or state officials for potential evacuation of site personnel based on offsite event

NUMARC IC:

Release of toxic or flammable gases deemed detrimental to safe operation of the plant.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This EAL is based on releases in concentrations within the site boundary that will affect the health of plant personnel or affecting the safe operation of the plant with the plant being within the evacuation area of an offsite event (i. e., tanker truck accident releasing toxic gases, etc.). The evacuation area is as determined from the DOT Evacuation Tables for Selected Hazardous Materials, in the DOT Emergency Response Guide for Hazardous Materials.

NMP-1 and NMP-2 share no common safety systems, but their respective Protected Area boundaries share common borders in some places. Therefore it is possible that a toxic or flammable gas incident happening on one site could affect the other site.

Should an explosion occur within a specified plant area, an Alert would be declared based on EAL 8.2.2

PEG Reference(s):

HU3.1
HU3.2

Basis Reference(s):

None

8.3.4 Alert

Vehicle crash or projectile impact which precludes personnel access to or damages equipment in plant vital areas, Table 6

Table 6
Plant Vital Areas

- Reactor Building
- Control Room
- Diesel Generator Engine and Board Rooms
- Battery Rooms
- Battery Board Rooms
- Cable Spreading Room
- Central Alarm Station
- Secondary Alarm Station
- Security Uninterruptible Power System Room
- Telephone Rooms
- Main Steam Isolation Valve Room

NUMARC IC:

Natural and destructive phenomena affecting the plant vital area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

NMP-1 and NMP-2 Protected Area boundaries are illustrated in USAR Figure 1.2-1. Also see S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89.

This EAL addresses such items as plane, helicopter, train, car, or truck crash, or impact of other projectiles into a plant vital area.

8.3.4 (Cont)

PEG Reference(s):

HA1.5

Basis Reference(s):

1. USAR Figure 1.2-1
2. S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89
3. NUREG 0737, Section II.B.2-2

8.3.5 Alert

Confirmed report or detection of toxic or flammable gases within a plant vital area, Table 6, in concentrations that will be life threatening to plant personnel or preclude access to equipment needed for safe plant operation

Table 6
Plant Vital Areas

- Reactor Building
- Control Room
- Diesel Generator Engine and Board Rooms
- Battery Rooms
- Battery Board Rooms
- Cable Spreading Room
- Central Alarm Station
- Secondary Alarm Station
- Security Uninterruptible Power System Room
- Telephone Rooms
- Main Steam Isolation Valve Room

NUMARC IC:

Release of toxic or flammable gases within a facility structure which jeopardizes operation of systems required to maintain safe operations or to establish or maintain cold shutdown.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

8.3.5 (Cont)

Basis:

This EAL is based on gases that have entered a plant structure precluding access to equipment necessary for the safe operation of the plant. This EAL applies to buildings and areas contiguous to plant vital areas or other significant buildings or areas. The intent of this EAL is not to include buildings (i. e., warehouses) or other areas that are not contiguous or immediately adjacent to plant vital areas. It is appropriate that increased monitoring be done to ascertain whether consequential damage has occurred.

PEG Reference(s):

HA3.1
HA3.2

Basis Reference(s):

1. USAR Figure III-6, Station Floor Plan - Elevation 281'-0" and 291'-0"

8.4 Natural Events

8.4.1 Unusual Event

Earthquake felt inplant based upon a consensus of Control Room Operators on duty.
AND either:
NMP-1 seismic instrumentation actuated
OR
Confirmation of earthquake received on NMP-2 or JAFNPP seismic instrumentation

NUMARC IC:

Natural and destructive phenomena affecting the protected area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

8.4.1 (Cont)

Basis:

NMP-1 seismic instrumentation actuates at 0.01 g.

Damage to some portions of the site may occur but it should not affect ability of safety functions to operate. Methods of detection can be based on instrumentation validated by a reliable source, operator assessment, or indication received from NMP-2 or JAFNPP instrumentation. As defined in the EPRI-sponsored "Guidelines for Nuclear Plant Response to an Earthquake", dated October 1989, a "felt earthquake" is:

> "An earthquake of sufficient intensity such that: (a) the inventory ground motion is felt at the nuclear plant site and recognized as an earthquake based on a consensus of Control Room operators on duty at the time, and (b) for plants with operable seismic instrumentation, the seismic switches of the plant are activated. For most plants with seismic instrumentation , the seismic switches are set at an acceleration of about 0.01 g"

PEG Reference(s):

HU1.1

Basis Reference(s):

1. N1-ARP-H2 annunciator H2-1-6
2. N1-SOP-11, Earthquake
3. EPRI document, "Guidelines for Nuclear Plant Response to an Earthquake"

8.4.2 <u>Unusual Event</u>

Report by plant personnel of tornado striking within plant Protected Area boundary

NUMARC IC:

Natural and destructive phenomena affecting the protected area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

8.4.2 (Cont)

Basis:

This EAL is based on the assumption that a tornado striking (touching down) within the protected boundary may have potentially damaged plant structures containing functions or systems required for safe shutdown of the plant. If such damage is confirmed visually or by other in-plant indications, the event may be escalated to Alert.

NMP-1 and NMP-2 Protected Area boundaries are illustrated in USAR Figure 1.2-1. Also see S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89.

PEG Reference(s):

HU1.2

Basis Reference(s):

1. USAR Figure 1.2-1

2. S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89

8.4.3 Unusual Event

Lake water level > 248 ft
OR
forebay water level < 238.8 ft

NUMARC IC:

Natural and destructive phenomena affecting the protected area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This covers high and low lake water level conditions that could be precursors of more serious events. The high lake level is based upon the maximum attainable uncontrolled lake water level. The low level is based on intake forebay level and corresponds to the minimum intake water level for operability of Emergency Service Water, Emergency Diesel Generator cooling water, Containment Spray Raw Water and Diesel and Electric Fire Pump.

8.4.3 (Cont)

PEG Reference(s):

HU1.7

Basis Reference(s):

1. N1-ARP-H2, Annunciator H2-1-3
2. N1-SOP-7, Service Water Failure/Low Intake Level
3. DER 1-92-Q-0489

8.4.4 Alert

Earthquake felt in plant based upon a consensus of Control Room Operators on duty
AND
NMP-1 seismic instrumentation indicates > 0.11 g

NUMARC IC:

Natural and destructive phenomena affecting the plant vital area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

This EAL is based on the FSAR design operating bases earthquake of 0.11 g. Seismic events of this magnitude can cause damage to plant safety functions.

PEG Reference(s):

HA1.1

Basis Reference(s):

1. N1-ARP-H2, annunciator H2-1-6
2. N1-SOP-11, Earthquake

8.4.5 Alert

Sustained winds > 125 mph
OR
Tornado strikes a plant vital area, Table 6

Table 6
Plant Vital Areas

- Reactor Building
- Control Room
- Diesel Generator Engine and Board Rooms
- Battery Rooms
- Battery Board Rooms
- Cable Spreading Room
- Central Alarm Station
- Secondary Alarm Station
- Security Uninterruptible Power System Room
- Telephone Rooms
- Main Steam Isolation Valve Room

NUMARC IC:

Natural and destructive phenomena affecting the plant vital area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

This EAL is based on the FSAR design bases of 125 mph. Wind loads of this magnitude can cause damage to safety functions.

NMP-1 and NMP-2 Protected Area boundaries are illustrated in USAR Figure 1.2-1. Also see S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89.

PEG Reference(s):

HA1.2

8.4.5 (Cont)

Basis Reference(s):

1. FSAR Section VI.C.1.1, Wind and Snow Loadings, 6/91
2. N1-SOP-10, High Winds
3. USAR Figure 1.2-1
4. S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89
5. NUREG 0737, Section II.B.2-2

8.4.6 Alert

Any natural event which results in a report of visible structural damage or assessment by Control Room personnel of actual damage to equipment needed for safe plant operation, Table 6.

Table 6
Plant Vital Areas

- Reactor Building
- Control Room
- Diesel Generator Engine and Board Rooms
- Battery Rooms
- Battery Board Rooms
- Cable Spreading Room
- Central Alarm Station
- Secondary Alarm Station
- Security Uninterruptible Power System Room
- Telephone Rooms
- Main Steam Isolation Valve Room

NUMARC IC:

Natural and destructive phenomena affecting the plant vital area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

8.4.6 (Cont)

This EAL specifies areas in which structures containing systems and functions required for safe shutdown of the plant are located.

PEG Reference(s):

HA1.3

Basis Reference(s):

1. USAR Figure III-6, Station Floor Plan - Elevation 281'-0" and 291'-0"

2. NUREG 0737, Section II.B.2-2

8.4.7 Alert

Lake water level > 254 ft
OR
forebay water level < 236 ft

NUMARC IC:

Natural and destructive phenomena affecting the plant vital area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

This EAL covers high and low lake water level conditions that exceed levels which threaten vital equipment. The high lake level is based upon the maximum probable flood level. The low forebay water level corresponds to the minimum level before damage may occur to the service water pumps.

8.4.7 (Cont)

PEG Reference(s):

HA1.7

Basis Reference(s):

1. N1-SOP-7, Service Water Failure/Low Intake Level

2. DER 1-92-Q-0489

9.0 OTHER

The EALs defined in categories 1.0 through 8.0 specify the predetermined symptoms or events which are indicative of emergency or potential emergency conditions, and which warrant classification. While these EALs have been developed to address the full spectrum of possible emergency conditions which may warrant classification and subsequent implementation of the Emergency Plan, a provision for classification of emergencies based on operator/management experience and judgment is still necessary. The EALs of this category provide the Shift Supervisor or Emergency Director the latitude to classify emergency conditions consistent with the established classification criteria, based upon their judgment.

9.1.1 Unusual Event

Any event, as determined by the Shift Supervisor or Emergency Director, that could lead to or has led to a potential degradation of the level of safety of the plant.

NUMARC IC:

Emergency Director Judgement

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This EAL addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Director to fall under the Unusual Event emergency class.

9.1.1 (Cont)

From a broad perspective, one area that may warrant Emergency Director judgment is related to likely or actual breakdown of site specific event mitigating actions. Examples to consider include inadequate emergency response procedures, transient response either unexpected or not understood, failure or unavailability of emergency systems during an accident in excess of that assumed in accident analysis, or insufficient availability of equipment and/or support personnel. Another example to consider would be exceeding a plant safety limit as defined in Technical Specifications.

PEG Reference(s):

HU5.1

Basis Reference(s):

None

9.1.2 Unusual Event

Any event, as determined by the Shift Supervisor or Emergency Director, that could lead to or has led to a loss or potential loss of containment. (Attachment 2)

Loss of containment indicators may include a rapid unexplained decrease following initial increase in containment pressure.

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Containment Loss/Potential Loss

Mode Applicability:

Power Operations, Hot Shutdown

Basis:

This EAL addresses any other factors that are to be used by the Emergency Director in determining whether the containment barrier is lost or potentially lost. In addition, the inability to monitor the barrier should also be incorporated in this EAL as a factor in Emergency Director judgment that the barrier may be considered lost or potentially lost.

9.1.2 (Cont)

PEG Reference(s):

PC6.1

Basis Reference(s):

None

9.1.3 Alert

Any event, as determined by the Shift Supervisor or Emergency Director, that could cause or has caused actual substantial degradation of the level of safety of the plant.

NUMARC IC:

Emergency Director Judgement

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This EAL addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Director to fall under the Alert emergency class.

PEG Reference(s):

HA6.1

Basis Reference(s):

None

9.1.4 Alert

Any event, as determined by the Shift Supervisor or Emergency Director, that could lead or has led to a loss or potential loss of either fuel clad or RCS barrier. (Attachment 2)

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Loss or Potential Loss of Either Fuel Clad or RCS Barrier

Mode Applicability:

Power Operations, Hot Shutdown

Basis:

This EAL addresses any other factors that are to be used by the Emergency Director in determining whether the fuel clad or RCS barriers are lost or potentially lost. In addition, the inability to monitor the barriers should also be considered in this EAL as a factor in Emergency Director judgment that the barriers may be considered lost or potentially lost.

PEG Reference(s):

FC5.1
RCS6.1

Basis Reference(s):

None

9.1.5 Site Area Emergency

As determined by the Shift Supervisor or Emergency Director, events are in progress which indicate actual or likely failures of plant systems needed to protect the public. Any releases are not expected to result in exposures which exceed EPA PAGs.

NUMARC IC:

Emergency Director Judgement

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

9.1.5 (Cont)

Basis:

This EAL addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Director to fall under the emergency class description for Site Area Emergency.

PEG Reference(s):

HS3.1

Basis Reference(s):

None

9.1.6 Site Area Emergency

Any event, as determined by the Shift Supervisor or Emergency Director, that could lead or has led to either:

Loss or potential loss of both fuel clad and RCS barrier, Attachment 2
OR
Loss or potential loss of either fuel clad or RCS barrier in conjunction with a loss of containment, Attachment 2

Loss of containment indicators may include a rapid unexplained decrease following initial increase in containment pressure

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Loss or potential loss of both fuel clad and RCS barrier
OR
Loss or potential loss of either fuel clad or RCS barrier in conjunctions with a loss of containment

Mode Applicability:

Power Operations, Hot Shutdown

9.1.6 (Cont)

Basis:

This EAL addresses unanticipated conditions affecting fission product barriers which are not addressed explicitly elsewhere. Declaration of an emergency is warranted because conditions exist which are believed by the Emergency Director to fall under the emergency class description for Site Area Emergency.

Rapid unexplained loss of pressure (i. e., not attributable to drywell spray or condensation effects) following an initial pressure increase may indicate a loss of containment integrity.

PEG Reference(s):

FC5.1
RCS6.1
PC6.1
PC1.1
PC1.2

Basis Reference(s):

None

9.1.7 General Emergency

As determined by the Shift Supervisor or Emergency Director, events are in progress which indicate actual or imminent core damage and the potential for a large release of radioactive material in excess of EPA PAGs outside the site boundary.

NUMARC IC:

Emergency Director Judgement

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

9.1.7 (Cont)

Basis:

This EAL addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Director to be consistent with the General Emergency classification description.

Releases can reasonably be expected to exceed EPA PAG plume exposure levels outside the site boundary.

PEG Reference(s):

HG2.1

Basis Reference(s):

None

9.1.8 General Emergency

Any event, as determined by the Shift Supervisor or Emergency Director, that could lead or has led to a loss of any two fission product barriers and loss or potential loss of the third (Attachment 2).

Loss of containment indicators may include a rapid unexplained decrease following initial increase in containment pressure:

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Loss of any two fission product barriers and loss or potential loss of the third

Mode Applicability:

Power Operations, Hot Shutdown

Basis:

This EAL addresses unanticipated conditions affecting fission product barriers which are not addressed explicitly elsewhere. Declaration of an emergency is warranted because conditions exist which are believed by the Emergency Director to fall under the emergency class description for the General Emergency class.

9.1.8 (Cont)

Rapid unexplained loss of pressure (i. e., not attributable to drywell spray or condensation effects) following an initial pressure increase indicates a loss of containment integrity.

PEG Reference(s):

FC5.1
RCS6.1
PC6.1
PC1.1
PC1.2

Basis Reference(s):

None

ATTACHMENT 2

FISSION PRODUCT BARRIER LOSS & POTENTIAL LOSS INDICATORS

Fission Product Barrier Loss/Potential Loss Matrix

(Those thresholds for which loss or potential is determined to be imminent, classify as though the threshold(s) has been exceeded)

Fuel Cladding

Potential Loss

- RPV water level cannot be restored and maintained > -84 in. (TAF)
- Emergency Director Judgment

Loss

- RPV water level cannot be restored and maintained > -84 in. (TAF)
- Coolant activity > 300 µCi/gm I-131 equivalent
- Valid offgas radiation ≥ 10 x hi-hi alarm
- Drywell radiation ≥ 3000 R/hr
- Emergency Director Judgment

RCS

Potential Loss

- RCS leakage greater than 50 gpm inside the drywell
- Primary system is discharging outside PC
  AND
  RB area radiation levels are > 8.0 R/hr in two or more areas, N1-EOP-5
- Primary system is discharging outside PC
  AND
  RB general area temperatures are > 135°F in two or more areas, N1-EOP-5
- Emergency Director Judgment

Loss

- RPV water level cannot be restored and maintained > -84 in. (TAF)
- Primary containment pressure cannot be maintained < 3.5 psig due to coolant leakage
- Drywell radiation ≥ 20 R/hr
- Emergency Director Judgment

Fission Product Barrier Loss/Potential Loss Matrix

(Those thresholds for which loss or potential is determined to be imminent, classify as though the threshold(s) has been exceeded)

Containment

Potential Loss

- Drywell radiation ≥ 4.0E6 R/hr
- Emergency Director Judgment

Loss

- Primary containment venting is required due to PCPL
- Primary containment venting is required due to combustible gas concentrations
- MSL, EC steam line or RWCU isolation failure resulting in a release pathway outside primary containment
- Primary system is discharging outside PC
  AND
  RB area radiation levels are > 8.0 R/hr in two or more areas, N1-EOP-5
- Primary system is discharging outside PC
  AND
- RB general area temperatures are > 135°F in two or more areas, N1-EOP-5
- Emergency Director Judgment
  Loss of containment indication may include rapid unexplained decrease following initial increase in containment pressure

ATTACHMENT 3
WORD LIST/DEFINITIONS

Actuate

To put into operation; to move to action; commonly used to refer to automated, multi-faceted operations. "Actuate ECCS".

Adversary

As applied to security EALs, an individual whose intent is to commit sabotage, disrupt Station operations or otherwise commit a crime on station property.

Adequate Core Cooling

Heat removal from the reactor sufficient to prevent rupturing the fuel clad.

Alert

Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

Available

The state or condition of being ready and able to be used (placed into operation) to accomplish the stated (or implied) action or function. As applied to a system, this requires the operability of necessary support systems (electrical power supplies, cooling water, lubrication, etc.).

Can/Cannot be determined

The current value or status of an identified parameter relative to that specified can/cannot be ascertained using all available indications (direct and indirect, singly or in combination).

Can/Cannot be maintained above/below

The value of the identified parameter(s) is/is not able to be kept above /below specified limits. This determination includes making an evaluation that considers both current and future system performance in relation to the current value and trend of the parameter(s). Neither implies that the parameter must actually exceed the limit before the action is taken nor that the action must be taken before the limit is reached.

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

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

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

Close

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

To make an electrical connection to supply power.

Confirm/Confirmation

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

Contiguous

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

Control

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

Decrease

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

Discharge

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

Drywell

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

Enter

To go into.

Establish

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

Evacuate

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

Exceeds

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

Exist

To have being with respect to understood limitations or conditions.

Failure

A state of inability to perform a normal function.

General Emergency

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

If

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

Increase

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

Indicate

To point out or point to; to display the value of a process variable; to be a sign or symbol.

Initiate

The act of placing equipment or a system into service, either manually or automatically. Activation of an function or protective feature (i.e. initiate a manual scram).

Injection

The act of forcing a fluid into a volume or vessel.

Inoperable

Not able to perform it's intended function

Intrusion

The act of entering without authorization

Loss

Failure of operability or lack of access to.

Maintain

Take action, as necessary, to keep the value of the specified parameter within the applicable limits.

Maximum Safe Operating (parameter)

The highest value of the identified operating parameter beyond which, required personnel access or continued operation of equipment important to safety cannot be assured.

Monitor

Observe and evaluate at a frequency sufficient to remain apprised of the value, trend, and rate of change of the specified parameter.

Notify

To give notice of or report the occurrence of; to make known to; to inform specified personnel; to advise; to communicate; to contact; to relay.

Open

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

To break an electrical connection which removes a power supply from an electrical device.

To make available for entry or passage by turning back, removing, or clearing away.

Operable

Able to perform it's intended function

Perform

To carry out an action; to accomplish; to affect; to reach an objective.

Primary Containment

The airtight volume immediately adjacent to and surrounding the RPV, consisting of the drywell and wetwell in a BWR plant.

Primary System

The pipes, valves, and other equipment which connect directly to the RPV or reactor coolant system such that a reduction in RPV pressure will effect a decrease in the steam or water being discharged through an unisolated break in the system.

Remove

To change the location or position of.

Report

To describe as being in a specific state.

Require

To demand as necessary or essential.

Restore

Take the appropriate action requires to return the value of an identified parameter to within applicable limits.

Rise

Describes an increase in a parameter as the result of an operator or automatic action.

Sample

To perform an analysis on a specified media to determine its properties.

Scram

To take action to cause shutdown of the reactor by rapidly inserting a control rod or control rods (BWR).

Secondary Containment

The airtight volume immediately adjacent to or surrounding the primary containment in a BWR plant.

Shut down

To perform operations necessary to cause equipment to cease or suspend operation; to stop. "Shut down unnecessary equipment."

Shutdown

As applied to the BWR reactor, subcritical with reactor power below the heating range.

Site Area Emergency

Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels except near the site boundary.

Sustained

Prolonged. Not intermittent or of transitory nature

Torus

The volume of water in a BWR plant intended to condense steam discharged from a primary system break inside the drywell.

Transient

Events of off-normal nature such as; scrams, runbacks involving >25% thermal power changes, ECCS injections or thermal power oscillations of >10%.

Trip

To de-energize a pump or fan motor; to position a breaker so as to interrupt or prevent the flow of current in the associated circuit; to manually activate a semi-automatic feature.

Uncontrolled

An evolution lacking control but is not the result of operator action.

Unplanned

Not as an expected result of deliberate action.

Until

Indicates that the associated prescribed action is to proceed only so long as the identified condition does not exist.

Unusual Event

Events are in process 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 unless further degradation of safety systems occurs.

Valid

Supported or corroborated on a sound bases.

Vent

To open an effluent (exhaust) flowpath from an enclosed volume; to reduce pressure in an enclosed volume.

Verify

To confirm a condition and take action to establish that condition if required. "Verify reactor trip."

Vital Area

Any plant area which contains vital equipment.

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION

EMERGENCY PLAN MAINTENANCE PROCEDURE

EPMP-EPP-0102

REVISION 02

UNIT 2 EMERGENCY CLASSIFICATION TECHNICAL BASIS

TECHNICAL SPECIFICATION REQUIRED

Approved by:
K. A. Dahlberg

K A Dahlberg
Plant Manager - Unit 2

5/15/98
Date

Effective Date: 06/19/98

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1.0 PURPOSE

To describe the Technical Basis for the Emergency Action Levels at Unit 2.

2.0 PRIMARY RESPONSIBILITY

2.1 Emergency Preparedness Group

- Monitor/solicit any changes to the Technical Basis of each Emergency Action Level
- Assess these changes for potential impact on the Emergency Action Level
- Maintain the Emergency Action Level (EAL) Technical Basis, EPIP-EPP-02, and the Emergency Action Level Matrix/Unit 2.

3.0 PROCEDURE

3.1 Emergency Preparedness Group

3.1.1 Maintain a matrix of Technical Basis references for each Emergency Action Level.

3.1.2 Evaluate each Technical Basis Reference Change for impact on the Affected Emergency Action Level.

3.1.3 Modify EPIP-EPP-02, Emergency Action Level Matrix/Unit, and Attachment 1 of this procedure, as needed.

4.0 DEFINITIONS

See Attachment 3.

5.0 REFERENCES AND COMMITMENTS

5.1 Licensee Documentation

None

5.2 Standards, Regulations and Codes

NUMARC NESP-007, Methodology for Development of Emergency Action Levels

5.3 Policies, Programs and Procedures

EPIP-EPP-02, Classification of Emergency Condition at Unit 2.

5.4 Supplemental References

Nine Mile Point Unit 2 Plant-Specific EAL Guideline

5.5 Commitments

None

6.0 RECORD REVIEW AND DISPOSITION

None

ATTACHMENT 1
UNIT 2 EMERGENCY ACTION LEVEL TECHNICAL BASIS

PURPOSE

The purpose of this document is to provide an explanation and rationale for each of the emergency action levels (EALs) included in the EAL Upgrade Program for Nine Mile Point 2 (NMP-2). It is also intended to facilitate the review process of the NMP-2 EALs and provide historical documentation for future reference. This document is also intended to be utilized by those individuals responsible for implementation of EPIP-EPP-02 "Classification of Emergency Conditions Unit 2" as a technical reference and aid in EAL interpretation.

DISCUSSION

EALs are the plant-specific indications, conditions or instrument readings which are utilized to classify emergency conditions defined in the NMP-2 Emergency Plan.

While the upgraded EALs are site specific, an objective of the upgrade project was to ensure conformity and consistency between the sites to the extent possible.

The revised EALs were derived from the Initiating Conditions and example EALs given in the NMP-2 Plant-Specific EAL Guideline (PEG). The PEG is the NMP-2 plant interpretation of the NUMARC methodology for developing EALs.

Many of the EALs derived from the NUMARC methodology are fission product barrier based. That is, the conditions which define the EALs are based upon loss or potential loss of one or more of the three fission product barriers.

The primary fission product barriers are:

A. Reactor Fuel Cladding (FC): The fuel cladding is comprised of the zirconium tubes which house the ceramic uranium oxide pellets along with the end plugs which are welded into each end of the fuel rods.

B. Reactor Coolant System (RCS): The RCS is comprised of the reactor vessel shell, vessel head, CRD housings, vessel nozzles and penetrations and all primary systems directly connected to the RPV up to the outermost primary containment isolation valve.

C. Primary Containment (PC): The primary containment is comprised of the drywell, suppression chamber, the interconnections between the two, and all isolation valves required to maintain primary containment integrity under accident conditions.

Although the secondary containment (reactor building) serves as an effective fission product barrier by minimizing ground level releases, it is not considered as a fission product barrier for the purpose of emergency classification.

DISCUSSION (Cont)

The following criteria serves as the basis for event classification related to fission product barrier loss:

Unusual Event:

Any loss or potential loss of containment

Alert:

Any loss or any potential loss of either fuel clad or RCS

Site Area Emergency:

Any loss of both fuel clad and RCS
or
Any potential loss of both fuel clad and RCS
or
Any potential loss of either fuel clad or RCS with a loss of any additional barrier

General Emergency:

Loss of any two barriers with loss or potential loss of a third

Those EALs which reference one or more of the fission product barrier Initiating Condition (IC) designators (FC, RCS and PC) in the PEG Reference section of the technical basis are derived from the Fission Product Barrier Analysis. The analysis entailed an evaluation of every combination of the plant specific barrier loss/potential loss indicators applied to the above criteria.

Where possible, the EALs have been made consistent with and utilize the conditions defined in the NMP-2 symptom based Emergency Operating Procedures (EOPs). While the symptoms that drive operator actions specified in the EOPs are not indicative of all possible conditions which warrant emergency classification, they do define the symptoms, independent of initiating events, for which reactor plant safety and/or fission product barrier integrity are threatened. Where these symptoms are clearly representative of one of the PEG Initiating Conditions, they have been utilized as an EAL. This allows for rapid classification of emergency situations based on plant conditions without the need for additional evaluation or event diagnosis. Although some of the EALs presented here are based on conditions defined in the EOPs, classification of emergencies using these EALs is not dependent upon EOP entry or execution. The EALs can be utilized independently or in conjunction with the EOPs.

DISCUSSION (Cont)

To the extent possible, the EALs are symptom based. That is, the action level is defined by values of key plant operating parameters which identify emergency or potential emergency conditions. This approach is appropriate because it allows the full scope of variations in the types of events to be classified as emergencies. But, a purely symptom based approach is not sufficient to address all events for which emergency classification is appropriate. Particular events to which no predetermined symptoms can be ascribed have also been utilized as EALs since they may be indicative of potentially more serious conditions not yet fully realized.

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

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

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

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

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

DISCUSSION (Cont)

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

For each EAL, the following information is provided:

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

The identified operating modes are defined as follows:

Power Operations

Reactor is critical and the mode switch is in RUN.

Startup/Hot Standby

Reactor is critical and the mode switch is in STARTUP/HOT STANDBY.

Hot Shutdown

Mode switch is usually in SHUTDOWN and reactor coolant temperature is >200 °F.

DISCUSSION (Cont)

Cold Shutdown

Mode switch usually in SHUTDOWN and reactor coolant temperature is ≤200 °F.

Refuel

Mode switch in REFUEL (with vessel head closure bolts less than fully tensioned or with head removed)
OR
Mode switch in SHUTDOWN and reactor coolant temperature is ≤140 °F.

Defueled

RPV contains no irradiated fuel.

1.0 REACTOR FUEL

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

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

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

- Coolant Activity: During normal operation, reactor coolant fission product activity is very low. Small concentrations of fission products in the coolant are primarily from either the fission of tramp uranium in the fuel cladding or minor perforations in the cladding itself. Any significant increase from these base-line levels is indicative of fuel failures.

- Off-gas Activity: As with coolant activity, any fuel failures will release fission products to the reactor coolant. Those products which are gaseous or volatile in nature will be carried over with the steam and eventually be detected by the air ejector off-gas radiation monitors.

- Containment Radiation Monitors: Although not a direct indication or measurement of fuel damage, exceeding predetermined limits on containment high range radiation monitors under LOCA conditions is indicative possible fuel failures. In addition, this indicator is utilized as an indicator of RCS loss and potential containment loss.

- Other Radiation Monitors: Other process and area radiation monitoring systems are specifically designed to provide indication of possible fuel damage such as Area Radiation Monitoring Systems.

- Refueling Accidents: Both area and process radiation monitoring systems designed to detect fission products during refueling conditions as well as visual observation can be utilized to indicate loss or potential loss of spent fuel cladding integrity.

1.1 Coolant Activity

1.1.1 Unusual Event

Coolant activity > 0.2 μCi/gm I-131 equivalent or >100/Ebar μCi/gm

NUMARC IC:

Fuel clad degradation

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

PEG Reference(s):

SU4.2

Basis Reference(s):

1. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, Article 3.4.5.a and b

1.1.2 Alert

Coolant activity > 300 μCi/gm I-131 equivalent

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel clad loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

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

PEG Reference(s):

FC1.1

Basis Reference(s):

1. General Electric NEDO-22215, Procedures for the Determination of the Extent of Core Damage Under Accident Conditions

1.2 Off-gas Activity

1.2.1 Unusual Event

Valid offgas radiation high alarm (at ≥DRMS red) for >15 min.

NUMARC IC:

Fuel clad degradation

Mode Applicability:

Power Operation, Startup/hot standby, hot shutdown

FPB Loss/Potential Loss:

N/A

Basis:

Elevated offgas radiation activity represents a potential degradation in the level of safety of the plant and a potential precursor of more serious problems. The Technical Specification allowable limit is an offgas level not to exceed 350,000 μCi/sec. The DRMS alarm setpoint has been conservatively selected because it is operationally significant and is readily recognizable by Control Room operating staff. 15 minutes is allotted for operator action to reduced the offgas radiation levels and exclude transient conditions.

The hi offgas radiation alarm is set using methodology outlined in the ODCM.

PEG Reference(s):

SU4.1

Basis Reference(s):

1. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Article 3.11.2.7

2. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.10-1

3. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Article 3.4.5.a and b

1.2.1 (Cont)

4. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Article 3.4.5c.2 and 3

5. N2-OP-42, annunciator 851253, pg. 115

1.3 Containment Radiation

1.3.1 Alert

Drywell area radiation ≥ 41 R/hr

NUMARC IC:

N/A

FPB Loss/Potential Loss:

RCS Loss

FPB Loss/Potential Loss:

RCS loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

The drywell radiation reading is a value which indicates the release of reactor coolant to the drywell. The reading is calculated assuming the instantaneous release and dispersal of the reactor coolant noble gas and iodine inventory associated with normal operating concentrations (i. e., within Technical Specifications) into the drywell atmosphere. The reading is less than that specified for EAL 1.3.2 because no damage to the fuel clad is assumed. Only leakage from the RCS is assumed in this EAL.

1.3.2 (Cont)

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell High Range Radiation Monitors are installed in the following locations:

2CEC*Pnl880D: DRMS 2RMS*RE1B/D

RMS*RUZ1B
RMS*RUZ1D

2CEC*Pnl880B: DRMS 2RMS*RE1A/C

RMS*RUZ1A
RMS*RUZ1C

PEG Reference(s):

RCS3.1

Basis Reference(s):

1. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.5-1

2. Calculation PR-C-24-0

1.3.2 Site Area Emergency

Drywell area radiation ≥ 3100 R/hr

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel clad loss, RCS loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

The drywell radiation reading is a value which indicates the release of reactor coolant, with elevated activity indicative of fuel damage, into the drywell. The reading is calculated assuming the instantaneous release and dispersal of the reactor coolant noble gas and iodine inventory associated with a concentration of 300 μCi/gm dose equivalent I-131 into the drywell atmosphere. Reactor coolant

1.3.2 (Cont)

concentrations of this magnitude are several times larger than the maximum concentrations allowed within Technical Specifications (including iodine spiking) and are therefore indicative of fuel damage (approximately 2% - 5% clad failure depending on core inventory and RCS volume). The reading is higher than that specified for EAL 1.3.1 and, thus, this EAL indicates a loss of both the fuel clad barrier and the RCS barrier.

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell High Range Radiation Monitors are installed in the following locations:

2CEC*Pnl880D: DRMS 2RMS*RE1B/D

RMS*RUZ1B
RMS*RUZ1D

2CEC*Pnl880B: DRMS 2RMS*RE1A/C

RMS*RUZ1A
RMS*RUZ1C

PEG Reference(s):

FC3.1

Basis Reference(s):

1. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.5-1

2. Calculation PR-C-24-0

1.3.3 General Emergency

Drywell area radiation ≥ 5.2E6 R/hr

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel clad loss, RCS loss, Containment potential loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

1.3.2 (Cont)

Basis:

The drywell radiation reading is a value which indicates significant fuel damage well in excess of that required for loss of the RCS barrier and the fuel clad barrier. NUREG-1228 "Source Estimations During Incident Response to Severe Nuclear Power Plant Accidents" states that such readings do not exist when the amount of clad damage is less than 20%. A major release of radioactivity requiring offsite protective actions from core damage is not possible unless a major failure into the reactor coolant has occurred. Regardless of whether the primary containment barrier itself is challenged, this amount of activity in containment could have severe consequences if released. It is, therefore, prudent to treat this as a potential loss of the containment barrier and upgrade the emergency classification to a General Emergency.

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell High Range Radiation Monitors are installed in the following locations:

2CEC*Pnl880D: DRMS 2RMS*RE1B/D

RMS*RUZ1B
RMS*RUZ1D

2CEC*Pnl880B: DRMS 2RMS*RE1A/C

RMS*RUZ1A
RMS*RUZ1C

PEG Reference(s):

PC3.1

Basis Reference(s):

1. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.5-1

2. Calculation PR-C-24-0, Rev. 4

1.4 Other Radiation Monitors

1.4.1 Unusual Event

Any sustained ARM reading > 100 x DRMS high radiation alarm (red) or offscale high (DETECTOR SATURATION) resulting from an uncontrolled process

NUMARC IC:

Unexpected increase in plant radiation or airborne concentration.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

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

PEG Reference(s):

AU2.4

Basis Reference(s):

1. N2-OP-79, Radiation Monitoring System
2. Calculation PR-C-25-1

1.4.2 Alert

Valid Rx Bldg. above Refueling Floor Radiation Monitor
2HVR*RE14A or B, Gaseous Radiation Monitors (channel 1) isolation
OR
Any sustained refuel floor rad monitor > 8.0 R/hr Table 1

Table 1
Refuel Floor Rad Monitors

RMS111, RB 354' West of Spent Fuel Pool
RMS112, RB 354' East of Spent Fuel Pool

NUMARC IC:

Major damage to irradiated fuel or loss of water level that has or will result in the uncovering of irradiated fuel outside the reactor vessel.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

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

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

Thus, an Alert Classification for this event is appropriate. Escalation, if appropriate, would occur via Emergency Director judgment in EAL Category 9.0.

1.4.2 (Cont)

The basis for the reactor building ventilation monitor setpoint is a spent fuel handling accident (isolation setpoint) and is, therefore, appropriate for this EAL. Technical Specification requires isolation at $\leq$ 2.36 E-3 μCi/cc).

Area radiation levels on the refuel floor at or above the Maximum Safe Operating value (8.0 R/hr) are indicative of radiation fields which may limit personnel access. Access to the refuel floor is required in order to visually observe water level in the spent fuel pool. Without access to the refuel floor, it would not be possible to determine the applicability of EAL 1.5.2. Area radiation levels on the refuel floor at or above the Maximum Safe Operating value could also adversely affect equipment whose operation may be needed to assure adequate core cooling or shutdown the reactor.

PEG Reference(s):

AA2.1

Basis Reference(s):

1. NUREG-0818, Emergency Action Levels for Light Water Reactors
2. NUREG/CR-4982, Severe Accident in Spent Fuel Pools in Support of Generic Safety Issue 82, July 1987
3. NRC Information Notice No. 90-08, KR-85 Hazards from Decayed Fuel
4. N2-OP-79, Radiation Monitoring System
5. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.2-2
6. N2-OP-61B, Standby Gas Treatment

1.4.3 <u>Alert</u>

Sustained area radiation levels > 15 mR/hr in either:
Control Room
OR
Central Alarm Station (CAS) and Secondary Alarm Station (SAS)

NUMARC IC:

Release of radioactive material or increases in radiation levels within the facility that impedes operation of systems required to maintain safe operations or to establish or maintain cold shutdown.

1.4.3 (Cont)

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This EAL addresses increased radiation levels that impede necessary access to operating stations requiring continuous occupancy to maintain safe plant operation or perform a safe plant shutdown. Areas requiring continuous occupancy include the Control Room, the central alarm station (CAS) and the secondary security alarm station (SAS). The security alarm stations are included in this EAL because of their importance to permitting access to areas required to assure safe plant operations.

The value of 15 mR/hr is derived from the GDC 19 value of 5 rem in 30 days with adjustment for expected occupancy times. Although Section III.D.3 of NUREG-0737, "Clarification of TMI Action Plan Requirements", provides that the 15 mR/hr value can be averaged over the 30 days, the value is used here without averaging. A 30 day duration implies an event potentially more significant than an Alert.

It is the impaired ability to operate the plant that results in the actual or potential degradation of the level of safety of the plant. The cause or magnitude of the increase in radiation levels is not a concern of this EAL. The Emergency Director must consider the source or cause of the increased radiation levels and determine if any other EALs may be involved. For example, a dose rate of 15 mR/hr in the Control Room may be a problem in itself. However, the increase may also be indicative of high dose rates in the containment due to a LOCA. In this latter case, a Site Area Emergency or a General Emergency may be indicated by other EAL categories.

This EAL could result in declaration of an Alert at NMP-2 due to a radioactivity release or radiation shine resulting from a major accident at the NMP-1 or JAFNPP. Such a declaration would be appropriate if the increase impairs safe plant operation.

This EAL is not intended to apply to anticipated temporary radiation increases due to planned events (e. g., radwaste container movement, depleted resin transfers, etc.).

PEG Reference(s):

AA3.1

1.4.3 (Cont)

Basis Reference(s):

1. GDC 19

2. NUREG-0737, "Clarification of TMI Action Plan Requirements", Section III.D.3

1.4.4 Alert

Sustained area radiation levels > 8.0 R/hr in any areas, Table 2
AND
Access is required for safe operation or shutdown

Table 2
Plant Safety Function Areas

Control Building
Normal Switchgear Building
South Aux. Bay
North Aux. Bay
RadWaste Building
Reactor Building
Turbine Building
Diesel Generator Building
Screenwell Building/ Service Water Pump Bays
Condensate Storage Tanks Building
Standby Gas Treatment Building

NUMARC IC:

Release of radioactive material or increases in radiation levels within the facility that impedes operation of systems required to maintain safe operations or to establish or maintain cold shutdown.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This EAL addresses increased radiation levels in areas requiring infrequent access in order to maintain safe plant operation or perform a safe plant shutdown. Area radiation levels at or above 8 R/hr are indicative of radiation fields which may limit personnel access or adversely affect equipment whose operation may be needed to assure adequate core cooling or shutdown the reactor. This basis of the value is described in NMPC memo File Code NMP31027 "Exposure Guidelines For Unusual/Accident Conditions". The areas selected are

1.4.4 (Cont)

consistent with those listed in other EALs and represent those structures which house systems and equipment necessary for the safe operation and shutdown of the plant. Guidelines For Unusual/Accident Conditions". The areas selected are consistent with those listed in other EALs and represent those structures which house systems and equipment necessary for the safe operation and shutdown of the plant.

It is the impaired ability to operate the plant that results in the actual or potential degradation of the level of safety of the plant. The cause or magnitude of the increase in radiation levels is not a concern of this EAL. The Emergency Director must consider the source or cause of the increased radiation levels and determine if any other EAL may be involved. For example, a dose rate of 8 R/hr may be a problem in itself. However, the increase may also be indicative of high dose rates in the containment due to a LOCA. In this latter case, a Site Area Emergency or a General Emergency may be indicated by other EAL categories.

This EAL could result in declaration of an Alert at NMP-2 due to a radioactivity release or radiation shine resulting from a major accident at the NMP-1 or JAFNPP. Such a declaration would be appropriate if the increase impairs safe plant operation.

This EAL is not meant to apply to increases in the containment radiation monitors as these are events which are addressed in other EALs. Nor is it intended to apply to anticipated temporary radiation increases due to planned events (e. g., radwaste container movement, deplete resin transfers, etc.).

PEG Reference(s):

AA3.2

Basis Reference(s):

1. Niagara Mohawk Power Corporation memo File Code NMP31027 "Exposure Guidelines For Unusual/Accident Conditions", Revision 1, 3/18/93

1.5 Refueling Accidents

1.5.1 Unusual Event

Spent fuel pool/reactor cavity water level cannot be restored and maintained above the spent fuel pool low water level alarm

NUMARC IC:

Unexpected increase in plant radiation or airborne concentration.

1.5.1 (Cont)

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All
Basis:

The above event has a long lead time relative to the potential for radiological release outside the site boundary, thus impact to public health and safety is very low. However, in light of recent industry events, classification as an Unusual Event is warranted as a precursor to a more serious event.

The spent fuel pool low water level is indicated by annunciators 873317 and 875117 which alarm at El 352' 8". The definition of "... cannot be restored and maintained above ..." allows the operator to visually observe the low water level condition, if possible, and to attempt water level restoration instructions as long as water level remains above the top of irradiated fuel. Water level restoration instructions are performed in accordance with N2-OP-38.

When the fuel transfer canal is directly connected to the spent fuel pool and reactor cavity, there could exist the possibility of uncovering irradiated fuel in the fuel transfer canal. Therefore, this EAL is applicable for conditions in which irradiated fuel is being transferred to and from the RPV and spent fuel pool.

PEG Reference(s):

AU2.1

Basis Reference(s):

1. N2-OP-38, Spent Fuel Pool Cooling and Cleanup System

1.5.2 Alert

Imminent or report of actual observation of the uncovering of irradiated fuel.

NUMARC IC: ---

Major damage to irradiated fuel or loss of water level that has or will result in the uncovering of irradiated fuel outside the reactor vessel.

1.5.2 (Cont)

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

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

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

Thus, an Alert Classification for this event is appropriate. Escalation, if appropriate, would occur by Emergency Director judgment in EAL Category 9.0.

There is no indication that water level in the spent fuel pool has dropped to the level of the fuel other than by visual observation by personnel on the refueling floor. When the fuel transfer canal is directly connected to the spent fuel pool and reactor cavity, there could exist the possibility of uncovering irradiated fuel in the fuel transfer canal. Therefore, this EAL is applicable for conditions in which irradiated fuel is being transferred to and from the RPV and spent fuel pool.

This EAL applies to spent fuel requiring water coverage and is not intended to address spent fuel which is licensed for dry storage.

PEG Reference(s): ---

AA2.2

1.5.2 (Cont)

Basis Reference(s):

1. NUREG-0818, Emergency Action Levels for Light Water Reactors

2. NUREG/CR-4982, Severe Accident in Spent Fuel Pools in Support of Generic Safety Issue 82, July 1987

3. NRC Information Notice No. 90-08, KR-85 Hazards from Decayed Fuel

2.0 REACTOR PRESSURE VESSEL (RPV)

The reactor pressure vessel provides a volume for the coolant which covers the reactor core. The RPV and associated pressure piping (reactor coolant system) together provide a barrier to limit the release of radioactive material should the reactor fuel cladding integrity fail.

There are two RPV parameters which are indicative of conditions which may pose a threat to RPV or fuel cladding integrity:

- RPV Water Level: RPV water level is directly related to the status of adequate core cooling, and therefore fuel cladding integrity. Excessive (> Tech. Spec.) reactor coolant to drywell leakage indications are utilized to indicate potential pipe cracks which may propagate to an extent threatening fuel clad, RPV and primary containment integrity. Conditions under which all attempts at establishing adequate core cooling have failed require primary containment flooding.

- Reactor Power/Reactivity Control: The inability to control reactor power below certain levels can pose a direct threat to reactor fuel, RPV and primary containment integrity.

2.1 RPV Water Level

2.1.1 Unusual Event

Unidentified drywell leakage > 10 gpm
OR
Reactor coolant to drywell identified leakage > 25 gpm

NUMARC IC:

RCS leakage

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

2.1.1 (Cont)

Basis:

The conditions of this EAL may be a precursor of more serious conditions and, as a result, is considered to be a potential degradation of the level of safety of the plant. The 10 gpm value for the unidentified drywell leakage was selected because it is observable with normal Control Room indications and is consistent with the Technical Specification threshold for leaks beyond which increased risk of crack propagation exists. The 25 gpm value for identified reactor coolant to drywell leakage is set at a higher value because of the significance of identified leakage in comparison to unidentified or pressure boundary leakage.

Only operating modes in which there is fuel in the reactor coolant system and the system is pressurized are specified.

PEG Reference(s):

SU5.1

Basis Reference(s):

None

2.1.2 Site Area Emergency

RPV water level cannot be restored and maintained > top of active fuel.

NUMARC IC:

Loss of reactor vessel water level has or will uncover fuel in the reactor vessel.

FPB Loss/Potential Loss:

Fuel clad potential loss, RCS loss

Mode Applicability:

Power Operation, Startup/Hot Standby, Hot Shutdown, Cold Shutdown, Refuel

2.1.2 (Cont)

Basis:

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

Sustained uncovery of the fuel irrespective of the event that causes fuel uncovery is justification alone for declaring a Site Area Emergency. This includes events that could lead to fuel uncovery in any plant operating mode including cold shutdown and refuel. Escalation to a General Emergency occurs through radiological effluence addressed in EAL 1.3.3 for drywell radiation and in the EALs defined for Category 5.0, Radioactivity Release.

The terminology of "cannot be restored and maintained" is intended to be consistent with the interpretation that:

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

This definition would require the emergency classification be made prior to water level dropping below TAF if, based on an evaluation of the current trend of RPV water level and in consideration of current and future injection system performance, that RPV water level will not likely be restored and maintained above TAF. This definition however, also provides the latitude, based on that same evaluation, not to declare the SAE for those situations in which the RPV water level transiently drops below TAF in the process of RPV water level restoration.

PEG Reference(s):
SS5.1
FC2.1
RCS4.1

Basis Reference(s):

1. N2-EOP-RPV, RPV Control

2.1.3 General Emergency

Primary Containment Flooding required

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel clad loss, RCS loss, Containment potential loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

The condition in this EAL represents imminent melt sequences which, if not corrected, could lead to RPV failure and increased potential for primary containment failure. If the EOPs are ineffective in restoring RPV water level above the top of active fuel, loss of the fuel clad barrier is imminent. Therefore, declaration of a General Emergency is appropriate when entry to the Primary Containment Flooding EOP is required.

PEG Reference(s):

PC4.1

Basis Reference(s):

1. N2-EOP-RPV, RPV Control

2.2 Reactor Power/Reactivity Control

2.2.1 Alert

Any RPS scram setpoint has been exceeded
AND
Automatic scram fails to result in a control rod pattern which assures reactor shutdown under all conditions without boron.

NUMARC IC:

Failure of Reactor Protection system instrumentation to complete or initiate an automatic reactor trip once a Reactor Protection system setpoint has been exceeded and manual trip was successful while in power operations or hot standby.

2.2.1 (Cont)

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power operation, startup/hot standby

Basis:

This condition indicates a failure of the Reactor Protection System to scram the reactor automatically, and maintain it in a shutdown under all conditions without boron. This is consistent with the entry requirements of N2-EOP-C5, "Level/Power Control".

If a manual scram does not result in reactor power being reduced below the APRM downscale setpoint (4%) or suppression pool temperature exceeds the Boron Injection Initiation Temperature (110 °F) escalation to a Site Area Emergency is required. A manual scram is any set of action by the reactor operators at the reactor control console which causes control rods to be rapidly inserted into the core and brings the reactor subcritical including manual scram push buttons, ARI and mode switch.

PEG Reference(s):

SA2.1

Basis Reference(s):

1. N2-EOP-RPV, RPV Control, Section RL
2. "Methodology for Development of Emergency Action Levels" NUMARC/NESP-007 Revision 2 - Questions and Answers, June 1993

2.2.2 Site Area Emergency

Any RPS scram setpoint has been exceeded
AND
Automatic and manual scrams fail to result in a control rod pattern which assures reactor shutdown under all conditions without boron
AND Either:
Reactor power >4%
OR
Suppression pool temperature >110°F

NUMARC IC:

Failure of Reactor Protection system instrumentation to complete or initiate an automatic reactor trip once a Reactor Protection system setpoint has been exceeded and manual scram trip was not successful.

2.2.2 (Cont)

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power operation, startup/hot standby

Basis:

This condition indicates failure of the Reactor Protection System to shutdown the reactor (automatically or manually) and maintain it shutdown under all conditions without boron. Under these conditions, the reactor is producing more heat than can be removed using available safety systems. A Site Area Emergency is indicated because conditions exist leading to imminent or potential loss of both the fuel clad and the Primary Containment.

The failure of automatic initiation of a reactor scram followed by unsuccessful manual initiation actions which can be rapidly taken at the reactor control console does not, by itself, lead to imminent loss of either fuel clad or primary containment barriers. It is the continued criticality under conditions requiring a reactor scram along with the continued addition of heat to containment which poses the imminent threat to primary containment or fuel clad barriers. In accordance with the EOPs, SLC is initiated based on heat addition to containment in excess of safety system capability under failure to scram conditions.

An immediate manual scram is any set of actions by the reactor operator at the reactor control console which causes control rods to be rapidly inserted into the core and brings the reactor subcritical including manual scram push buttons, ARI and mode switch.

PEG Reference(s):

SS2.1

Basis Reference(s):

1. N2-EOP-RPV, RPV Control, Section RL
2. "Methodology for Development of Emergency Action Levels" NUMARC/NESP-007 Revision 2 - Questions and Answers, June 1993

2.2.3 General Emergency

Any RPS scram setpoint has been exceeded
AND
Automatic and manual scrams fail to result in a control rod pattern which assures reactor shutdown under all conditions without boron
AND Either:
RPV water level cannot be restored and maintained > Minimum Steam Cooling RPV Water Level
OR
Suppression pool temperature and RPV pressure cannot be maintained <HCTL.

NUMARC IC:

Failure of the Reactor Protection System to complete an automatic trip and manual trip was not successful and there is indication of an extreme challenge to the ability to cool the core.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power operation, startup/hot standby

Basis:

Under the conditions of this EAL, the efforts to bring the reactor subcritical have been unsuccessful and, as a result, the reactor is producing more heat than the maximum decay heat load for which the safety systems were designed.

An extreme challenge to the ability to cool the core is indicated when RPV water level cannot be restored and maintained above the Minimum Steam Cooling RPV Water Level. This RPV water level is used in the EOPs to define the lowest RPV water level in a failure-to-scram event above which adequate core cooling can be maintained without sufficient steam cooling flow. This situation could be precursor for a core melt sequence.

In this situation, core degradation can occur rapidly For this reason, the General Emergency declaration is intended to be anticipatory of the loss of two fission product barriers and a potential loss of a third thus permitting the maximum offsite intervention time.

An immediate manual scram is any set of actions by the reactor operator at the reactor control console which causes control rods to be rapidly inserted into the core and brings the reactor subcritical including manual scram push buttons, ARI and mode switch.

2.2.3 (Cont)

PEG Reference(s):

SG2.1

Basis Reference(s):

1. N2-EOP-C5, Level/Power Control

3.0 PRIMARY CONTAINMENT (PC)

The primary containment structure is a pressure suppression system. It forms a fission product barrier designed to limit the release of radioactive fission products generated from any postulated accident so as to preclude exceeding offsite exposure limits.

The primary containment structure is a low leakage pressure suppression system housing the reactor pressure vessel (RPV), the reactor coolant recirculation piping and other branch connections of the reactor primary system. The primary containment is equipped with isolation valves for most systems which penetrate the containment boundary. These valves automatically actuate to isolate systems under emergency conditions.

There are four primary containment parameters which are indicative of conditions which may pose a threat to primary containment integrity or indicate degradation of RPV or reactor fuel integrity.

- Primary Containment Pressure: Excessive primary containment pressure is also indicative of either primary system leaks into containment or loss of containment cooling function. Primary containment pressures at or above specified limits pose a direct threat to primary containment integrity and the pressure suppression function.

- Suppression Pool Temperature: Excessive suppression pool water temperatures can result in a loss of the pressure suppression capability of containment and thus be indicative of severely degraded RPV and containment conditions.

- Combustible Gas Concentrations: The existence of combustible gas concentrations in containment pose a severe threat to containment integrity and are indicative of severely degraded reactor core and/or RPV conditions.

- Containment Isolation Status: The existence of an unisolable steam line break outside containment constitutes a loss of containment integrity as well as a loss of RCS boundary. Should a loss of fuel cladding integrity occur, the potential for release of large amounts of radioactive materials to the environment exists.

3.1 Containment Pressure

3.1.1 Alert

Primary containment pressure cannot be maintained < 1.68 psig due to coolant leakage

NUMARC IC:

N/A

FPB Loss/Potential Loss:

RCS loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

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

PEG Reference(s):

RCS2.1

Basis Reference(s):

1. N2-OP-97, annunciator 603401

3.1.2 Site Area Emergency

Primary containment pressure cannot be maintained < 1.68 psig
AND
Coolant activity > 300 μCi/gm

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel clad loss, RCS loss

3.1.2 (Cont)

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

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

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

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

PEG Reference(s):

FC1.1
RCS2.1

Basis Reference(s):

1. N2-OP-97, annunciator 603401
2. General Electric NEDO-22215, Procedures for the Determination of the Extent of Core Damage Under Accident Conditions

3.1.3 General Emergency

Primary containment venting is required due to PCPL

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel clad loss, RCS loss, containment loss

3.1.3 (Cont)

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

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

PEG Reference(s):

PC1.3
PC2.2

Basis Reference(s):

1. N2-EOP-PC, Primary Containment Control

3.2 Suppression Pool Temperature

3.2.1 Site Area Emergency

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

NUMARC IC:

Complete loss of function needed to achieve or maintain hot shutdown with reactor coolant >200°F.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

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

3.2.1 (Cont)

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

PEG Reference(s):

SS4.1

Basis Reference(s):

1. USAR, Revision 2, Section 9B.2
2. USAR, Revision 2, Section 9B.4.3
3. N2-EOP-PC, Primary Containment Control

3.3 Combustible Gas Concentration

3.3.1 Site Area Emergency

$\geq$ 4% H_2 exists in DW or suppression chamber

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel clad loss, RCS loss

Mode Applicability:

All

Basis:

4% hydrogen concentration is the lowest hydrogen concentration which, in the presence of sufficient oxygen, can support upward flame propagation. This hydrogen concentration is generally considered the lower boundary of the range in which localized deflagrations may occur. To generate such a concentration of combustible gas, loss of both the fuel clad and RCS barriers must have occurred. Therefore, declaration of a Site Area Emergency is warranted.

3.3.1 (Cont)

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

PEG Reference(s):

SS5.2

Basis Reference(s):

1. N2-EOP-PC, Primary Containment Control, Revision 5

3.3.2 General Emergency

Primary containment venting is required due to combustible gas concentrations

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Fuel clad loss, RCS loss, Containment loss

Mode Applicability:

All

Basis:

6% hydrogen concentration in the presence of 5% oxygen concentration is the lowest concentration at which a deflagration inside of the primary containment could occur. When hydrogen and oxygen concentrations reach or exceed combustible limits, imminent loss of the containment barrier exists. To generate such levels of combustible gas, loss of the fuel clad and RCS barriers must have occurred. Venting of the containment irrespective of the offsite radioactive release rate is required by EOPs for this condition.

PEG Reference(s):

PC1.4
PC2.2

Basis Reference(s):

1. N2-EOP-PC, Primary Containment Control

3.4 Containment Isolation Status

3.4.1 Site Area Emergency

Main Steam Line, RCIC Steam Line or Reactor Water Clean-up isolation failure
AND
A release pathway, outside normal process system flowpaths from the unisolable system, exists outside primary containment.

NUMARC IC:

N/A

FPB Loss/Potential Loss:

RCS loss, Containment loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

The conditions of this EAL include required containment isolation failures allowing a flow path to the environment. A release pathway outside primary containment exists when steam flow is not prevented by downstream isolations. In the case of a failure of both isolation valves to close but in which no downstream flowpath exists, declaration under this EAL would not be required. The conditions of this EAL represent the loss of both the RCS barrier and the primary containment barrier and thus justifies declaration of a Site Area Emergency.

PEG Reference(s):

PC2.1

Basis Reference(s):

None

3.4.2 General Emergency

Main Steam Line, RCIC steam line or Reactor Water Clean-up isolation failure

AND

A release pathway, outside normal process system flowpaths from the unisolable system, exists outside primary containment

AND any:

- Coolant activity > 300 μCi/gm I-131 equivalent
- RPV water level < top of active fuel
- DW radiation > 3100 R/hr

NUMARC IC:

N/A

FPB Loss/Potential Loss:

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

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

The conditions of this EAL include required containment isolation failures allowing a flow path to the environment. A release pathway outside primary containment exists when steam flow is not prevented by downstream isolations. In the case of a failure of both isolation valves to close but in which no downstream flowpath exists, declaration under this EAL would not be required. Containment isolation failures which result in a release pathway outside primary containment are the basis for declaration of Site Area Emergency in EAL 3.4.1.

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

3.4.2 (Cont)

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

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

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

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell High Range Radiation Monitors are installed in the following locations:

2CEC*Pnl880D: DRMS 2RMS*RE1B/D

RMS*RUZ1B
RMS*RUZ1D

2CEC*Pnl880B: DRMS 2RMS*RE1A/C

RMS*RUZ1A
RMS*RUZ1C

PEG Reference(s):

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

3.4.2 (Cont)

Basis Reference(s):

1. General Electric NEDO-22215, Procedures for the Determination of the Extent of Core Damage Under Accident Conditions

2. N2-EOP-RPV, RPV Control

3. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.5-1

4. Calculation PR-C-24-0, Rev. 4

4.0 SECONDARY CONTAINMENT (SC)

The secondary containment is comprised of the reactor building and associated ventilation, isolation and effluent systems. The secondary containment serves as an effective fission product barrier and is designed to minimize any ground level release of radioactive materials which might result from a serious accident.

The reactor building provides secondary containment during reactor operation and serves as primary containment when the reactor is shutdown and the drywell is open, as during refueling. Because the secondary containment is an integral part of the complete containment system, conditions which pose a threat to vital equipment located in the secondary containment are classifiable as emergencies.

There are two secondary containment parameters which are indicative of conditions which may pose a threat to secondary containment integrity or equipment located in secondary containment or are indicative of a direct release by a primary system into secondary containment:

- Secondary Containment Temperatures: Abnormally high secondary containment area temperatures can also pose a threat to the operability of vital equipment located inside secondary containment including RPV water level instrumentation. High area temperatures may limit personnel accessibility to vital areas. High area temperatures may also be indicative of either primary system discharges into secondary containment or fires.

- Secondary Containment Area Radiation Levels: Abnormally high area radiation levels in secondary containment, although not necessarily posing a threat to equipment operability, may pose a threat to personnel safety and the ability to operate vital equipment due to a lack of accessibility. Abnormally high area radiation levels may also be the result of a primary system discharging into the secondary containment and be indicative of precursors to significant radioactivity release to the environment.

4.1 Reactor Building Temperature

4.1.1 Site Area Emergency

Primary system is discharging inside RB
AND
RB area temperatures are > 212°F in more than one area, N2-EOP-SC

NUMARC IC:

N/A

FPB Loss/Potential Loss:

RCS loss, Containment loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

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

PEG Reference(s):

PC2.3
RCS1.3

Basis Reference(s):

1. N2-EOP-SC, Secondary Containment Control

4.1.2 General Emergency

Primary system is discharging into RB
AND
RB area temperatures are > 212°F in more than one area, N2-EOP-SC
AND any:

- Coolant activity > 300 μCi/gm I-131 equivalent
- RPV water level < top of active fuel
- DW radiation > 3100 R/hr

4.1.2 (Cont)

NUMARC IC:

N/A

FPB Loss/Potential Loss:

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

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

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

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

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

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

The drywell radiation reading is a value which indicates the release of reactor coolant, with elevated activity indicative of fuel damage, into the drywell. The reading is calculated assuming the instantaneous release and dispersal of the reactor coolant noble gas and iodine inventory associated with a concentration of 300 μCi/gm

4.1.2 (Cont)

dose equivalent I-131 into the drywell atmosphere. Reactor coolant concentrations of this magnitude are several times larger than the maximum concentrations allowed within Technical Specifications (including iodine spiking) and are therefore indicative of fuel damage (approximately 2% - 5% clad failure depending on core inventory and RCS volume).

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell High Range Radiation Monitors are installed in the following locations:

2CEC*Pnl880D: DRMS 2RMS*RE1B/D

RMS*RUZ1B
RMS*RUZ1D

2CEC*Pnl880B: DRMS 2RMS*RE1A/C

RMS*RUZ1A
RMS*RUZ1C

PEG Reference(s):

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

Basis Reference(s):

1. N2-EOP-SC, Secondary Containment Control

2. N2-EOP-RPV, RPV Control

3. General Electric NEDO-22215, Procedures for the Determination of the Extent of Core Damage Under Accident Conditions

4. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.5-1

5. Calculation PR-C-24-0, Rev. 4

4.2 Reactor Building Radiation Level

4.2.1 Site Area Emergency

Primary system is discharging into the RB
AND
RB area radiation levels are >8.0 R/hr in more than one area, N2-EOP-SC

NUMARC IC:

N/A

FPB Loss/Potential Loss:

RCS loss, Containment loss

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

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

PEG Reference(s):

PC2.3
RCS1.3

Basis Reference(s):

N2-EOP-SC, Secondary Containment Control

4.2.2 General Emergency

Primary system is discharging into the RB
AND
RB area radiation levels are >8.0 R/hr in more than one area, N2-EOP-SC
AND any:

- Coolant activity > 300 µCi/gm I-131 equivalent
- RPV water level < top of active fuel
- DW radiation > 3100 R/hr

4.2.2 (Cont)

NUMARC IC:

N/A

FPB Loss/Potential Loss:

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

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

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

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

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

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

4.2.2 (Cont)

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

It is important to recognize that the radiation monitor may be sensitive to shine from the RPV or RCS piping. Drywell High Range Radiation Monitors are installed in the following locations:

2CEC*Pnl880D: DRMS 2RMS*RE1B/D

RMS*RUZ1B
RMS*RUZ1D

2CEC*Pnl880B: DRMS 2RMS*RE1A/C

RMS*RUZ1A
RMS*RUZ1C

PEG Reference(s):

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

Basis Reference(s):

1. N2-EOP-SC, Secondary Containment Control

2. N2-EOP-RPV, RPV Control

3. General Electric NEDO-22215, Procedures for the Determination of the Extent of Core Damage Under Accident Conditions

4. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.5-1

5. Calculation PR-C-24-0, Rev. 4

5.0 RADIOACTIVITY RELEASE

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

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

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

- Effluent Monitors: Direct indication of effluent radiation monitoring systems provides a rapid assessment mechanism to determine releases in excess of classifiable limits.

- Dose Projection and/or Environmental Measurements: Projected offsite doses (based on effluent monitor readings) or actual offsite field measurements indicating doses or dose rates above classifiable limits.

5.1 Effluent Monitors

5.1.1 Unusual Event

A valid reading from an unplanned release on any monitors Table 3 column "UE" for > 60 min. unless sample analysis can confirm release rates <2 x technical specifications within this time period.

Table 3
Effluent Monitor Classification Thresholds

Monitor	UE	Alert	SAE	GE
Radwaste/Reactor Bldg. Vent Effluent	2 x GEMS alarm	200 x GEMS alarm	≥5.5E6 μCi/s	N/A
Main Stack Effluent	2 x GEMS alarm	200 x GEMS alarm	N/A	N/A
Service Water Effluent	2 x DRMS High (red)	200 x DRMS High (red)	N/A	N/A
Liquid RadWaste Effluent	2 x DRMS High (red)	200 x DRMS High (red)	N/A	N/A
Cooling Tower Blowdown	2 x DRMS High (red)	200 x DRMS High (red)	N/A	N/A

5.1.1 (Cont)

NUMARC IC:

Any unplanned release of gaseous or liquid radioactivity to the environment that exceeds two times the radiological Technical Specifications for 60 minutes or longer.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

Valid means that a radiation monitor reading has been confirmed by the operators to be correct. Unplanned releases in excess of two times the site technical specifications that continue for 60 minutes or longer represent an uncontrolled situation and hence, a potential degradation in the level of safety. The final integrated dose (which is very low in the Unusual Event emergency class) is not the primary concern; it is the degradation in plant control implied by the fact that the release was not isolated within 60 minutes. Therefore, it is not intended that the release be averaged over 60 minutes. For example, a release of 4 times T/S for 30 minutes does not exceed this initiating condition. Further, the Emergency Director should not wait until 60 minutes has elapsed, but should declare the event as soon as it is determined that the release duration has or will likely exceed 60 minutes.

The alarm setpoints for the listed monitors are conservatively set to ensure Technical Specification radioactivity release limits are not exceeded. The value shown for each monitor is two times the high alarm setpoint for the Digital Radiation Monitoring System (DRMS). Instrumentation that may be used to assess this EAL is listed below:

Radwaste/Reactor Building Vent Effluent Monitoring System
monitor: 2RMS-CAB180
recorder: 2RMS-RR170/180
annunciator: 851248

Main Stack Effluent Monitoring System
monitor: 2RMS-CAB170
recorder: 2RMS-RR170/180
annunciator: 851256

5.1.1 (Cont)

Service Water Effluent Loop A/B Radiation
monitor: 2SWP*RE146A/B
recorder: 2SWP*RR146A/B
annunciator: 851258

Liquid Effluent Line
monitor: LWS-RE206
annunciator: 851258

Cooling Tower Blowdown Line
monitor: CWS-RE 157
annunciator: 851258

PEG Reference(s):

AU1.1

Basis Reference(s):

1. N2-OP-79, Radiation Monitoring System

2. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.10-1

3. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.1-1

5.1.2 Alert

A valid reading from an unplanned release on any monitors Table 3 column "Alert" for > 15 min. unless dose assessment can confirm releases are below Table 4 column "Alert" within this time period.

Table 3
Effluent Monitor Classification Thresholds

Monitor	UE	Alert	SAE	GE
Radwaste/Reactor Bldg. Vent Effluent	2 x GEMS alarm	200 x GEMS alarm	≥5.5E6 μCi/s	N/A
Main Stack Effluent	2 x GEMS alarm	200 x GEMS alarm	N/A	N/A
Service Water Effluent	2 x DRMS High (red)	200 x DRMS High (red)	N/A	N/A
Liquid RadWaste Effluent	2 x DRMS High (red)	200 x DRMS High (red)	N/A	N/A
Cooling Tower Blowdown	2 x DRMS High (red)	200 x DRMS High (red)	N/A	N/A

5.1.2 (Cont)

Table 4
Dose Projection/Env. Measurement Classification Thresholds

	Alert	SAE	GE
TEDE	10 mRem	100 mRem	1000 mRem
CDE Thyroid	N/A	500 mRem	5000 mRem
External exposure rate	10 mRem/hr	100 mRem/hr	1000 mRem/hr
Thyroid exposure rate (for 1 hr. of inhalation)	N/A	500 mRem/hr	5000 mRem/hr

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

The values for the gaseous effluent radiation monitors are based upon not exceeding 10 mR/hr at the site boundary as a result of the release.

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

5.1.2 (Cont)

Radwaste/Reactor Building Vent Effluent Monitoring System
monitor: 2RMS-CAB180
recorder: 2RMS-RR170/180
annunciator: 851248

Main Stack Effluent Monitoring System
monitor: 2RMS-CAB170
recorder: 2RMS-RR170/180
annunciator: 851256

Service Water Effluent Loop A/B Radiation
monitor: 2SWP*RE146A/B
recorder: 2SWP*RR146A/B
annunciator: 851258

Liquid RadWaste Effluent Line
monitor: LWS-RE206
annunciator: 851258

Cooling Tower Blowdown Line
monitor: CWS-RE 157
annunciator: 851258

PEG Reference(s):

AA1.1

Basis Reference(s):

1. N2-OP-79, Radiation Monitoring System

2. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.10-1

3. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.1-1

5.1.3 Site Area Emergency

A valid reading from an unplanned release on any monitors Table 3 column "SAE" for > 15 min. unless dose assessment can confirm releases are below Table 4 column "SAE" within this time period.

Table 3
Effluent Monitor Classification Thresholds

Monitor	UE	Alert	SAE	GE
Radwaste/Reactor Bldg. Vent Effluent	2 x GEMS alarm	200 x GEMS alarm	≥5.5E6 μCi/s	N/A
Main Stack Effluent	2 x GEMS alarm	200 x GEMS alarm	N/A	N/A
Service Water Effluent	2 x DRMS High (red)	200 x DRMS High (red)	N/A	N/A
Liquid RadWaste Effluent	2 x DRMS High (red)	200 x DRMS High (red)	N/A	N/A
Cooling Tower Blowdown	2 x DRMS High (red)	200 x DRMS High (red)	N/A	N/A

Table 4
Dose Projection/Env. Measurement Classification Thresholds

	Alert	SAE	GE
TEDE	10 mRem	100 mRem	1000 mRem
CDE Thyroid	N/A	500 mRem	5000 mRem
External exposure rate	10 mRem/hr	100 mRem/hr	1000 mRem/hr
Thyroid exposure rate (for 1 hr. of inhalation)	N/A	500 mRem/hr	5000 mRem/hr

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

5.1.3 (Cont)

Basis:

Valid means that a radiation monitor reading has been confirmed by the operators to be correct. The SAE values of Table 5.1 are based on the boundary dose resulting from an actual or imminent release of gaseous radioactivity that exceeds 100 mR whole body or 500 mR child thyroid for the actual or projected duration of the release. The 100 mR integrated dose is based on the proposed 10CFR20 annual average population exposure. The 500 mR integrated child thyroid dose was established in consideration of the 1:5 ratio of the EPA Protective Action Guidelines for whole body thyroid.

These values provide a desirable gradient (one order of magnitude) between the Alert, Site Area Emergency, and General Emergency classifications. It is deemed that exposures less than this limit are not consistent with the Site Area Emergency class description.

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

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

The values are derived from Calculation PR-C-24-X, Rev. 2.

PEG Reference(s):

AS1.1

Basis Reference(s):

1. N2-OP-79, Radiation Monitoring System

2. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.10-1

3. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.1-1

4. Calculation PR-C-24-X, Rev. 2

5.2 Dose Projections/Environmental Measurements

5.2.1 Unusual Event

Confirmed sample analyses for gaseous or liquid release rates > 2 x technical specifications limits for > 60 min.

NUMARC IC:

Any unplanned release of gaseous or liquid radioactivity to the environment that exceeds two times the radiological Technical Specifications for 60 minutes or longer.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

Confirmed sample analyses in excess of two times the site technical specifications that continue for 60 minutes or longer represent an uncontrolled situation and hence, a potential degradation in the level of safety. The final integrated dose (which is very low in the Unusual Event emergency class) is not the primary concern; it is the degradation in plant control implied by the fact that the release was not isolated within 60 minutes. Therefore, it is not intended that the release be averaged over 60 minutes. For example, a release of 4 times T/S for 30 minutes does not exceed this initiating condition. Further, the Emergency Director should not wait until 60 minutes has elapsed, but should declare the event as soon as it is determined that the release duration has or will likely exceed 60 minutes.

PEG Reference(s):

AU1.2

Basis Reference(s):

1. N2-OP-79, Radiation Monitoring System
2. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.10-1
3. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.1-1

5.2.2 Alert

Confirmed sample analyses for gaseous or liquid release rates > 200 x technical specifications limits for > 15 min.

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

Confirmed sample analyses in excess of two hundred times the site technical specifications that continue for 15 minutes or longer represent an uncontrolled situation and hence, a potential degradation in the level of safety. This event escalates from the Unusual Event by increasing the magnitude of the release by a factor of 100 over the Unusual Event level (i. e., 200 times Technical Specifications). Prorating the 500 mR/yr basis of the 10CFR20 non-occupational MPC limits for both time (8766 hr/yr) and the 200 multiplier, the associated site boundary dose rate would be 10 mR/hr. The required release duration was reduced to 15 minutes in recognition of the increased severity.

PEG Reference(s):

AA1.2

Basis Reference(s):

1. N2-OP-79, Radiation Monitoring System

2. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.10-1

3. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.1-1

5.2.3 Alert

Dose projections or field surveys resulting from actual or imminent release which indicate doses / dose rates > Table 4 column "Alert" at the site boundary or beyond

Table 4

Dose Projection/Env. Measurement Classification Thresholds

	Alert	SAE	GE
TEDE	10 mRem	100 mRem	1000 mRem
CDE Thyroid	N/A	500 mRem	5000 mRem
External exposure rate	10 mRem/hr	100 mRem/hr	1000 mRem/hr
Thyroid exposure rate (for 1 hr. of inhalation)	N/A	500 mRem/hr	5000 mRem/hr

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

Offsite integrated doses in excess of 10 mR TEDE or dose rates in excess of 10 mR/hr TEDE represent an uncontrolled situation and hence, a potential degradation in the level of safety. This event escalates from the Unusual Event by increasing the magnitude of the release by a factor of 100 over the Unusual Event level (i. e., 200 times Technical Specifications). Prorating the 500 mR/yr basis of 10CFR20 for both time (8766 hr/yr) and the 200 multiplier, the associated site boundary dose rate would be 10 mR/hr.

5.2.3 (Cont)

As previously stated, the 10 mR/hr value is based on a proration of 200 times the 500 mR/yr basis of 10CFR20, rounded down to 10 mR/hr.

Imminent is intended to mean that a release will occur.

PEG Reference(s):

AA1.2

Basis Reference(s):

1. N2-OP-79, Radiation Monitoring System

2. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.10-1

3. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.1-1

5.2.4 Site Area Emergency

Dose projections or field surveys resulting from actual or imminent release which indicate doses / dose rates > Table 4 column "SAE" at the site boundary or beyond

Table 4
Dose Projection/Env. Measurement Classification Thresholds

	Alert	SAE	GE
TEDE	10 mRem	100 mRem	1000 mRem
CDE Thyroid	N/A	500 mRem	5000 mRem
External exposure rate	10 mRem/hr	100 mRem/hr	1000 mRem/hr
Thyroid exposure rate (for 1 hr. of inhalation)	N/A	500 mRem/hr	5000 mRem/hr

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

5.2.4 (Cont)

Mode Applicability:

All

Basis:

The 100 mR integrated TEDE dose in this EAL is based on the proposed 10CFR20 annual average population exposure. This value also provides a desirable gradient (one order of magnitude) between the Alert, Site Area Emergency, and General Emergency classes. It is deemed that exposures less than this limit are not consistent with the Site Area Emergency class description. The 500 mR integrated CDE thyroid dose was established in consideration of the 1:5 ratio of the EPA Protective Action Guidelines for whole body thyroid. In establishing the dose rate emergency action levels, a duration of one hour is assumed. Therefore, the dose rate EALs are based on a site boundary dose rate of 100 mR/hr TEDE or 500 mR/hr CDE thyroid, whichever is more limiting.

Imminent is intended to mean that a release will occur.

PEG Reference(s):

AS1.3
AS1.4

Basis Reference(s):

1. N2-OP-79, Radiation Monitoring System

2. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.10-1

3. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.1-1

5.2.5 General Emergency

Dose projections or field surveys resulting from actual or imminent release which indicate doses / dose rates in excess of Table 5.2 column "GE" at the site boundary or beyond

5.2.5 (Cont)

Table 5.2
Dose Projection/Env. Measurement Classification Thresholds

	Alert	SAE	GE
TEDE	10 mRem	100 mRem	1000 mRem
CDE Thyroid	N/A	500 mRem	5000 mRem
External exposure rate	10 mRem/hr	100 mRem/hr	1000 mRem/hr
Thyroid exposure rate (for 1 hr. of inhalation)	N/A	500 mRem/hr	5000 mRem/hr

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

The General Emergency values of Table 5.2 are based on the boundary dose resulting from an actual or imminent release of gaseous radioactivity that exceeds 1000 mR TEDE or 5000 mR CDE thyroid for the actual or projected duration of the release. The 1000 mR TEDE and the 5000 mR CDE thyroid integrated dose are based on the EPA protective action guidance which indicates that public protective actions are indicated if the dose exceeds 1 rem TEDE or 5 rem CDE thyroid. This is consistent with the emergency class description for a General Emergency. This level constitutes the upper level of the desirable gradient for the Site Area Emergency. Actual meteorology is specifically identified since it gives the most accurate dose assessment. Actual meteorology (including forecasts) should be used whenever possible. In establishing the dose rate emergency action levels, a duration of one hour is assumed. Therefore, the dose rate EALs are based on a site boundary dose rate of 1000 mR/hr TEDE or 5000 mR/hr CDE thyroid, whichever is more limiting.

Imminent is intended to mean that a release will occur.

5.2.5 (Cont)

PEG Reference(s):

AG1.3
AG1.4

Basis Reference(s):

1. N2-OP-79, Radiation Monitoring System

2. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.10-1

3. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 3.3.7.1-1

6.0 ELECTRICAL FAILURES

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

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

- Loss of AC Power Sources: This category includes losses of onsite and/or offsite AC power sources including station blackout events.

- Loss of DC Power Sources: This category involves total losses of vital plant 125 vdc power sources.

6.1 Loss of AC Power Sources

6.1.1 Unusual Event

Loss of power for >15 min. to all:
- Reserve Transformer A
- Reserve Transformer B
- Aux Boiler Transformer

NUMARC IC:

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

6.1.1 (Cont)

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

PEG Reference(s):

SU1.1

Basis Reference(s):

1. N2-OP-70, Station Electrical Feed and 115 kv Switchyard
2. N2-OP-100A, Standby Diesel Generators
3. N2-OP-100B, HPCS Diesel Generator

6.1.2 Alert

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

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Cold shutdown, refuel, defuel

6.1.2 (Cont)

Basis:

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

Loss of power for >15 min. to all:

- Reserve Transformer A
- Reserve Transformer B
- Aux Boiler Transformer
- AND
  failure of all DGs to power any emergency bus
  AND
  failure to restore power to 2ENS*SWG101, 2ENS*SWG102 or 2ENS*SW103 in ≤15 min.

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

PEG Reference(s):

SA1.1

Basis Reference(s):

1. N2-OP-70, Station Electrical Feed and 115 kv Switchyard

2. N2-OP-100A, Standby Diesel Generators

3. N2-OP-100B, HPCS Diesel Generator

6.1.3 Alert

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

- Reserve Transformer A
- Reserve Transformer B
- Aux Boiler Transformer
- 2EGS*EG1
- 2EGS*EG2
- 2EGS*EG3

6.1.3 (Cont)

NUMARC IC:

AC power capability to essential busses reduced to a single power source for greater than 15 minutes such that any additional single failure would result in station blackout with reactor coolant >200 °F.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

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

PEG Reference(s):

SA5.1

Basis Reference(s):

1. N2-OP-70, Station Electrical Feed and 115 kv Switchyard

2. N2-OP-100A, Standby Diesel Generators

3. N2-OP-100B, HPCS Diesel Generator

6.1.4 <u>Site Area Emergency</u>

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

NUMARC IC:

Loss of all offsite power and loss of all onsite AC power to essential busses with reactor coolant >200°F.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

6.1.4 (Cont)

Basis:

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

Loss of power to Reserve Transformer A, Reserve Transformer B, and Aux Boiler Transformer
AND
failure of all DGs to power any emergency bus
AND
failure to restore power to 2ENS*SWG101, 2ENS*SWG102 or 2ENS*SWG103 in ≤ 15 min.

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

PEG Reference(s):

SS1.1

Basis Reference(s):

1. N2-OP-100A, Standby Diesel Generators

2. N2-OP-100B, HPCS Diesel Generator

3. N2-OP-70, Station Electrical Feed and 115 kv Switchyard

4. N2-OP-72, Standby and Emergency AC Distribution System

6.1.5 <u>General Emergency</u>

Loss of all emergency bus AC power
AND either:
Power restoration to any emergency bus is not likely in ≤ 4 hrs
OR
RPV water level cannot be restored and maintained > top of active fuel

NUMARC IC:

Prolonged loss of all offsite power and prolonged loss of all onsite AC power with reactor coolant >200°F.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

6.1.5 (Cont)

Basis:

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

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

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

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

1. Are there any present indications that core cooling is already degraded to the point that Loss or Potential Loss of fission product barriers is imminent?

2. If there are no present indications of such core cooling degradation, how likely is it that power can be restored in time to assure that a loss of two barriers with a potential loss of the third barrier can be prevented?

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

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

The terminology of "cannot be restored and maintained" is intended to be consistent with the interpretation that:

6.1.5 (Cont)

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

This definition would require the emergency classification be made prior to water level dropping below TAF if, based on an evaluation of the current trend of RPV water level and in consideration of current and future injection system performance, that RPV water level will not likely be restored and maintained above TAF. This definition however, also provides the latitude, based ont hat same evaluation, not to declare the SAE for those situations in which the RPV water level transiently drops below TAF in the process of RPV water level restoration.

PEG Reference(s):

SG1.1

Basis Reference(s):

1. N2-OP-74A, Emergency DC Distribution
2. N2-OP-74B, HPCS 125 vdc System
3. N2-OP-70, Station Electrical Feed and 115 kv Switchyard
4. N2-EOP-RPV, RPV Control
5. Nine Mile Point Unit 2 SBO Study, GENE-770-04-02-1290 dated 9/93 Rev 2 Page 74

6.2 Loss of DC Power Sources

6.2.1 Unusual Event

< 105 vdc on 2BYS*SWG2A and B for >15 min.

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Cold shutdown, Refuel

Basis:

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

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

PEG Reference(s):

SU7.1

Basis Reference(s):

1. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, Amendment 5, Article 4.8.2.1.d.2

2. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, Basis 3/4.8.1-3, pg. B3/4 8-2

3. Operations Technology BYS/BWS, Plant DC Electrical Distribution System

6.2.2 Site Area Emergency

< 105 vdc on 2BYS*SWG2A and B for > 15 min.

NUMARC IC:

Loss of vital DC power with reactor coolant >200°F.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

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

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

PEG Reference(s):

SS3.1

Basis Reference(s):

1. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, Amendment 5, Article 4.8.2.1.d.2

2. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Basis 3/4.8.1-3, pg. B3/4 8-2

3. Operations Technology BYS/BWS, Plant DC Electrical Distribution System

7.0 EQUIPMENT FAILURES

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

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

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

7.1 Technical Specifications

7.1.1 Unusual Event

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

NUMARC IC:

Inability to reach required shutdown within Technical Specification Limits.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

7.1.1 (Cont)

Basis:

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

PEG Reference(s):
SU2.1

Basis Reference(s):

1. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, article 3.0.3

7.2 System Failures or Control Room Evacuation

7.2.1 Unusual Event

Report of main turbine failure resulting in casing penetration or damage to turbine seals or generator seals

NUMARC IC:

Natural and destructive phenomena affecting the protected area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

7.2.1 (Cont)

Basis:

This EAL is intended to address main turbine rotating component failures of sufficient magnitude to cause observable damage to the turbine casing or to the seals of the turbine generator. Of major concern is the potential for leakage of combustible fluids (lubricating oils) and gases (hydrogen cooling) to the plant environs. Actual fires and flammable gas build up are appropriately classified through other EALs. This EAL is consistent with the definition of an Unusual Event while maintaining the anticipatory nature desired and recognizing the risk to non-safety related equipment.

PEG Reference(s):

HU1.6

Basis Reference(s):

None

7.2.2 Alert

Entry into N2-OP-78, "Remote Shutdown System"

NUMARC IC:

Control room evacuation has been initiated.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

With the Control Room evacuated, additional support, monitoring and direction through the Technical Support Center and/or other Emergency Operations Center is necessary. Inability to establish plant control from outside the Control Room will escalate this event to a Site Area Emergency.

PEG Reference(s): ---

HA5.1

Basis Reference(s):

1. N2-OP-78, Remote Shutdown System, Section H.2.0

7.2.3 Alert

Reactor coolant temperature cannot be maintained < 200 °F

NUMARC IC:

Inability to maintain plant in cold shutdown.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Cold shutdown, refuel

Basis:

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

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

This EAL does not apply during hydrostatic testing.

PEG Reference(s):

SA3.1

Basis Reference(s):

1. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Amendment 26, Article 3.4.9.2

2. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, Table 1.2

7.2.4 Site Area Emergency

Entry into N2-OP-78, "Remote Shutdown System".
AND
Plant control cannot be established per N2-OP-78, "Remote Shutdown System" in $\leq$ 15 min.

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

PEG Reference(s):

HS2.1

Basis Reference(s):

1. Generic Letter 88-17, "Loss of Decay Heat Removal"
2. N2-OP-78, Remote Shutdown System, Section H.2.0
3. NMP-2 FSAR Section 9B.8.2.2, Safe Shutdown Scenario, pg. 9B.8-5a,

7.3 Loss of Indications/Alarm/Communication Capability

7.3.1 Unusual Event

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

- 2CEC*PNL601
- 2CEC*PNL602
- 2CEC*PNL603
- 2CEC*PNL852
- 2CEC*PNL851

AND
Increased surveillance is required for safe plant operation

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

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

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

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

7.3.1 (Cont)

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

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

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

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

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

PEG Reference(s):

SU3.1

Basis Reference(s):

1. USAR Figure 1.2-15, Control Room layout
2. N2-OP-91A, Process Computer
3. N2-OP-91B, Safety Parameter Display System (SPDS)

7.3.2 Unusual Event

Loss of all communications capability affecting the ability to either:
Perform routine onsite operations
OR
Notify offsite agencies or personnel

NUMARC IC:

Unplanned loss of all onsite or offsite communications capabilities.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

The purpose of this EAL is to recognize a loss of communications capability that either defeats the plant operations staff ability to perform routine tasks necessary for plant operations or the ability to communicate problems with offsite authorities. The loss of offsite communications ability is expected to be significantly more comprehensive than the condition addressed by 10CFR50.72.

The onsite communications loss must encompass the loss of all means of routine communications, Table 7.1.

Table 7.1
Communications Systems

System	Onsite	Offsite
Dial telephones	X	X
SPC system	X	
M/CC system	X.	
PP/PA system	X	
Hand-Held Portable radio	X	
Red phone to USNRC-Bethesda		X
Black phone to USNRC-King of Prussia		X
Black phone direct to JAFNPP		X
PBX		X
RECS		X
Health physics-network and FTS 2000		X
UHF radios		X

The offsite communications loss must encompass the loss of all means of communications with offsite authorities, Table 7.1. This EAL is intended to be used only when extraordinary means are being utilized to make communications possible (relaying of information from radio transmissions, individuals being sent to offsite locations, etc.).

7.3.2 (Cont)

PEG Reference(s):

SU6.1

Basis Reference(s):

1. N2-OP-76, Plant Communications

7.3.3 Alert

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

- 2CEC*PNL601
- 2CEC*PNL602
- 2CEC*PNL603
- 2CEC*PNL852
- 2CEC*PNL851

AND
increased surveillance is required for safe plant operation
AND either:
Plant transient in progress
OR
Plant computer and SPDS are unavailable

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

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

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

7.3.3 (Cont)

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

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

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

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

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

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

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

PEG Reference(s):

SA4.1

Basis Reference(s):

1. USAR Figure 1.2-15, Control Room layout
2. N2-OP-91A, Process Computer
3. N2-OP-91B, Safety Parameter Display System (SPDS)

7.3.4 Site Area Emergency

Loss of annunciators or indicators on any of the following panels:

- 2CEC*PNL601
- 2CEC*PNL602
- 2CEC*PNL603
- 2CEC*PNL852
- 2CEC*PNL851

AND

plant computer and SPDS are unavailable

AND

indications to monitor all RPV and primary containment EOP parameters are lost

AND

plant transient is in progress

NUMARC IC:

Inability to monitor a significant transient in progress.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

Power operation, startup/hot standby, hot shutdown

Basis:

This EAL recognizes the inability of the Control Room staff to monitor the plant response to a transient. A Site Area Emergency is considered to exist if the Control Room staff cannot monitor safety functions needed for protection of the public.

Annunciators for this EAL should be limited to include those identified in the Abnormal Operating Procedures, in the Emergency Operating Procedures, and in other EALs (e. g., rad monitors, etc.).

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

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

7.3.4 (Cont)

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

PEG Reference(s):

SS6.1

Basis Reference(s):

1. N2-EOP-PC, Primary Containment Control
2. N2-EOP-RPV, RPV Control
3. N2-OP-91A, Process Computer
4. N2-OP-91B, Safety Parameter Display System (SPDS)
5. USAR Figure 1.2-15, Control Room layout

8.0 HAZARDS

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

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

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

8.1 Security Threats

8.1.1 Unusual Event

Bomb device or other indication of attempted sabotage discovered within plant Protected Area
OR
Any security event which represents a potential degradation in the level of safety of the plant.

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This EAL is based on the Nine Mile Point Nuclear Station Physical Security and Safeguards Contingency Plans. Security events which do not represent at least a potential degradation in the level of safety of the plant, are reported under 10CFR73.71 or in some cases under 10CFR50.72.

The plant Protected Area boundary is within the security isolation zone and is defined in the security plan.

PEG Reference(s):

HU4.1
HU4.2

Basis Reference(s):

1. Nine Mile Point Nuclear Station Physical Security and Safeguards Contingency Plans.

8.1.2 Alert

Intrusion into plant Protected Area by an adversary
OR
Any security event which represents an actual substantial degradation of the level of safety of the plant.

NUMARC IC:

Security event in a plant protected area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

NMP-1 and NMP-2 Protected Area boundaries are illustrated in USAR Figure 1.2-1. Also see S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89.

PEG Reference(s):

HA4.1
HA4.2

Basis Reference(s):

1. Nine Mile Point Nuclear Station Physical Security and Safeguards Contingency Plans

2. S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89

8.1.3 Site Area Emergency

Intrusion into a plant security vital area by an adversary
OR
Any security event which represents actual or likely failures of plant systems needed to protect the public.

NUMARC IC:

Security event in a plant vital area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This class of security events represents an escalated threat to plant safety above that contained in the Alert in that an adversary has progressed from the Protected Area to the vital area.
PEG Reference(s):

HS1.1
HS1.2

Basis Reference(s):

1. Nine Mile Point Nuclear Station Physical Security and Safeguards Contingency Plans

8.1.4 General Emergency

Security event which results in either:

Loss of plant control from the Control Room
OR
Loss of remote shutdown capability

NUMARC IC:

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

8.1.4 (Cont)

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

PEG Reference(s):

HG1.1
HG1.2

Basis Reference(s):

None

8.2 Fire or Explosion

8.2.1 Unusual Event

Confirmed fire in or contiguous to any plant area, Table 5 or Table 6, not extinguished in ≤ 15 min. of Control Room notification

Table 5
Plant Areas

- Service Building
- 115 KV Switchyard
- 345 KV Switchyard

Table 6
Plant Vital Areas

- Reactor Building
- Control Room
- Diesel Generator Engine and Board Rooms
- Standby Switchgear and Battery Rooms
- HPCS Switchgear and Battery Rooms
- Remote Shutdown Rooms
- Control Building HVAC Rooms
- Service Water Pump Rooms
- Electrical Protection Assembly Room
- PGCC Relay Room

8.2.1 (Cont)

NUMARC IC:

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

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

PEG Reference(s):

HU2.1

Basis Reference(s):

1. Nine Mile Point Nuclear Station Physical Security and Safeguards Contingency Plans

2. NUREG 0737, Section II.B.2-2

8.2.2 Alert

Fire or explosion in any plant area which results in damage to plant equipment or structures needed for safe plant operation, Table 5 or Table 6

Table 5
Plant Areas

- Service Building
- 115 KV Switchyard
- 345 KV Switchyard

8.2.2 (Cont)

Table 6
Plant Vital Areas

- Reactor Building
- Control Room
- Diesel Generator Engine and Board Rooms
- Standby Switchgear and Battery Rooms
- HPCS Switchgear and Battery Rooms
- Remote Shutdown Rooms
- Control Building HVAC Rooms
- Service Water Pump Rooms
- Electrical Protection Assembly Room
- PGCC Relay Room

NUMARC IC:

Fire or explosion affecting the operability of plant safety systems required to establish or maintain safe shutdown.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

The listed areas contain functions and systems required for the safe shutdown of the plant. The NMP-2 safe shutdown analysis was consulted for equipment and plant areas required for the applicable mode.

With regard to explosions, only those explosions of sufficient force to damage permanent structures or equipment required for safe operation within the identified plant areas should be considered. As used here, an explosion is a rapid, violent, unconfined combustion, or a catastrophic failure of pressurized equipment, that potentially imparts significant energy to nearby structures and materials. No attempt is made in this EAL to assess the actual magnitude of the damage. The declaration of an Alert and the activation of the TSC will provide the Emergency Director with the resources needed to perform damage assessments. The Emergency Director also needs to consider any security aspects of the explosions.

PEG Reference(s):

HA2.1

8.2.2 (Cont)

Basis Reference(s):

1. N2-OP-47, Fire Detection
2. USAR, Figure 9B.6-1
3. USAR, Section 9B
4. NUREG 0737, Section. II.B.2-2

8.3 Man-Made Events

8.3.1 Unusual Event

Vehicle crash into or projectile which impacts plant structures or systems within Protected Area boundary

NUMARC IC:

Natural and destructive phenomena affecting the protected area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

The Protected Area boundary is within the security isolation zone and is defined in the site security plan. NMP-1 and NMP-2 Protected Area boundaries are illustrated in USAR Figure 1.2-1. Also, refer to S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89.

This EAL addresses such items as plane, helicopter, train, car, truck, or barge crash, or impact of other projectiles that may potentially damage plant structures containing functions and systems required for safe shutdown of the plant. If the crash is confirmed to affect a plant vital area, the event may be escalated to Alert.

For the purpose of this EAL, a plant structure is any permanent building or structure which houses plant process / support systems and equipment. Administrative buildings, support buildings/trailers or other non plant operations related structures are not intended to be included here.

8.3.1 (Cont)

PEG Reference(s):

HU1.4

Basis Reference(s):

1. USAR Figure 1.2-2 Station Arrangement

2. S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89

8.3.2 Unusual Event

Report by plant personnel of an explosion within Protected Area boundary resulting in visible damage to permanent structures or equipment

NUMARC IC:

Natural and destructive phenomena affecting the protected area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

The Protected Area boundary is within the security isolation zone and is defined in the site security plan. NMP-1 and NMP-2 Protected Area boundaries are illustrated in USAR Figure 1.2-1. Also, refer to S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89.

For this EAL, only those explosions of sufficient force to damage permanent structures or equipment within the Protected Area should be considered. As used here, an explosion is a rapid, violent, unconfined combustion, or a catastrophic failure of pressurized equipment, that potentially imparts significant energy to near by structures and materials. No attempt is made in this EAL to assess the actual magnitude of the damage. The occurrence of the explosion with reports of evidence of damage (e. g., deformation, scorching) is sufficient for declaration. The Emergency Director also needs to consider any security aspects of the explosion.

8.3.2 (Cont)

PEG Reference(s):

HU1.5

Basis Reference(s):

1. USAR Figure 1.2-2 Station Arrangement

2. S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89

8.3.3 Unusual Event

Report or detection of a release of toxic or flammable gases that could enter or have entered within the Protected Area boundary in amounts that could affect the health of plant personnel or safe plant operation
OR
Report by local, county or state officials for potential evacuation of site personnel based on offsite event

NUMARC IC:

Release of toxic or flammable gases deemed detrimental to safe operation of the plant.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This EAL is based on releases in concentrations within the site boundary that will affect the health of plant personnel or affecting the safe operation of the plant with the plant being within the evacuation area of an offsite event (i. e., tanker truck accident releasing toxic gases, etc.). The evacuation area is as determined from the DOT Evacuation Tables for Selected Hazardous Materials, in the DOT Emergency Response Guide for Hazardous Materials.

8.3.3 (Cont)

NMP-1 and NMP-2 share no common safety systems, but their respective Protected Area boundaries share common borders in some places. Therefore it is possible that a toxic or flammable gas incident happening on one site could affect the other site.

Should an explosion occur within a specified plant area, an Alert would be declared based on EAL 8.2.2

PEG Reference(s):

HU3.1
HU3.2

Basis Reference(s):

None

8.3.4 Alert

Vehicle crash or projectile impact which precludes personnel access to or damages equipment in plant vital areas, Table 6.

Table 6
Plant Vital Areas

- Reactor Building
- Control Room
- Diesel Generator Engine and Board Rooms
- Standby Switchgear and Battery Rooms
- HPCS Switchgear and Battery Rooms
- Remote Shutdown Rooms
- Control Building HVAC Rooms
- Service Water Pump Rooms
- Electrical Protection Assembly Room
- PGCC Relay Room

NUMARC IC:

Natural and destructive phenomena affecting the plant vital area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

8.3.4 (Cont)

Basis:

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

NMP-1 and NMP-2 Protected Area boundaries are illustrated in USAR Figure 1.2-1. Also see S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89.

This EAL addresses such items as plane, helicopter, train, car, truck; or barge crash, or impact of other projectiles into a plant vital area.

PEG Reference(s):

HA1.5

Basis Reference(s):

1. USAR Figure 1.2-2 Station Arrangement

2. S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89

3. NUREG 0737, Section II.B.2-2

8.3.5 Alert

Confirmed report or detection of toxic or flammable gases within a plant vital area, Table 6, in concentrations that will be life threatening to plant personnel or preclude access to equipment needed for safe plant operation

Table 6
Plant Vital Areas

- Reactor Building
- Control Room
- Diesel Generator Engine and Board Rooms
- Standby Switchgear and Battery Rooms
- HPCS Switchgear and Battery Rooms
- Remote Shutdown Rooms
- Control Building HVAC Rooms
- Service Water Pump Rooms
- Electrical Protection Assembly Room
- PGCC Relay Room

8.3.5 (Cont)

NUMARC IC:

Release of toxic or flammable gases within a facility structure which jeopardizes operation of systems required to maintain safe operations or to establish or maintain cold shutdown.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This EAL is based on gases that have entered a plant structure precluding access to equipment necessary for the safe operation of the plant. This EAL applies to buildings and areas contiguous to plant vital areas or other significant buildings or areas. The intent of this EAL is not to include buildings (i. e., warehouses) or other areas that are not contiguous or immediately adjacent to plant vital areas. It is appropriate that increased monitoring be done to ascertain whether consequential damage has occurred.

PEG Reference(s):

HA3.1
HA3.2

Basis Reference(s):

1. USAR Figure 1.2-2 Station Arrangement
2. NUREG 0737, Section II.B.2-2

8.4 Natural Events

8.4.1 Unusual Event

Earthquake felt in plant based upon a consensus of Control Room Operators on duty.
AND either:
NMP-2 seismic instrumentation actuated
OR
confirmation of earthquake received on NMP-1 or JAFNPP seismic instrumentation

8.4.1 (Cont)

NUMARC IC:

Natural and destructive phenomena affecting the protected area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

NMP-2 seismic instrumentation actuates at 0.01 g causing:

- Power to remote acceleration sensor units
- Activation of MRS1 recorders
- EVENT alarm light on PWRS1 to light
- Annunciator 842121 on panel 2CEC-PNL842 to be received
- EVENT INDICATOR on PWRS1 to turn from black to white

Damage to some portions of the site may occur but it should not affect ability of safety functions to operate. Methods of detection can be based on instrumentation validated by a reliable source, operator assessment, or indication received from NMP-1 or JAFNPP instrumentation. As defined in the EPRI-sponsored "Guidelines for Nuclear Plant Response to an Earthquake", dated October 1989, a "felt earthquake" is:

"An earthquake of sufficient intensity such that: (a) the inventory ground motion is felt at the nuclear plant site and recognized as an earthquake based on a consensus of Control Room operators on duty at the time, and (b) for plants with operable seismic instrumentation, the seismic switches of the plant are activated. For most plants with seismic instrumentation , the seismic switches are set at an acceleration of about 0.01 g."

PEG Reference(s):

HU1.1

8.4.1 (Cont)

Basis Reference(s):

1. N2-OP-90, Seismic Monitoring

2. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, article 3.3.7.2

3. EPRI document, "Guidelines for Nuclear Plant Response to an Earthquake", dated October 1989

8.4.2 Unusual Event

Report by plant personnel of tornado striking within plant Protected Area boundary

NUMARC IC:

Natural and destructive phenomena affecting the protected area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This EAL is based on the assumption that a tornado striking (touching down) within the Protected Area boundary may have potentially damaged plant structures containing functions or systems required for safe shutdown of the plant. If such damage is confirmed visually or by other in-plant indications, the event may be escalated to Alert.

NMP-1 and NMP-2 Protected Area boundaries are illustrated in USAR Figure 1.2-1. Also see S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89.

PEG Reference(s):

HU1.2

Basis Reference(s):

1. USAR Figure 1.2-1

2. S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89

8.4.3 Unusual Event

Lake water level > 248 ft
OR
intake water level < 237 ft

NUMARC IC:

Natural and destructive phenomena affecting the protected area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This covers high and low lake water level conditions that could be precursors of more serious events. The high lake level is based upon the maximum attainable uncontrolled lake water level as specified in the FSAR. The low level is based on intake water level and corresponds to the design minimum lake level.

PEG Reference(s):

HU1.7

Basis Reference(s):

1. FSAR Section 2.4.1.2 and 2.4.11.2

8.4.4 Alert

Earthquake felt in plant based upon a consensus of Control Room Operators on duty
AND
NMP-2 seismic instrumentation indicates > 0.075 g

NUMARC IC:

Natural and destructive phenomena affecting the plant vital area.

FPB Loss/Potential Loss:

N/A

8.4.4 (Cont)

Mode Applicability:

All

Basis:

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

This EAL is based on the FSAR design operating basis earthquake of 0.075 g. Seismic events of this magnitude can cause damage to plant safety functions.

PEG Reference(s):

HA1.1

Basis Reference(s):

1. N2-OP-90, Seismic Monitoring

2. NUREG-1253 Technical Specifications Nine Mile Point Nuclear Stations, Unit No. 2, Docket No. 50-410, 7/87, article 3.3.7.2

8.4.5 Alert

Sustained winds > 90 mph
OR
Tornado strikes a plant vital area, Table 6

Table 6
Plant Vital Areas

- Reactor Building
- Control Room
- Diesel Generator Engine and Board Rooms
- Standby Switchgear and Battery Rooms
- HPCS Switchgear and Battery Rooms
- Remote Shutdown Rooms
- Control Building HVAC Rooms
- Service Water Pump Rooms
- Electrical Protection Assembly Room
- PGCC Relay Room

NUMARC IC:

Natural and destructive phenomena affecting the plant vital area.

4.8.5 (Cont)

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

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

NMP-1 and NMP-2 Protected Area boundaries are illustrated in USAR Figure 1.2-1. Also see S&W Drawing No. 12187-SK-032483-25, Issue No. 1, Site Facilities Layout Status as of 8/1/89.

PEG Reference(s):

HA1.2

Basis Reference(s):

1. FSAR 3.3, Wind and Tornado Loadings, Amendment 26

2. FSAR Table 1.3-7, Amendment 4

3. NUREG 0737, Section II.B.2-2

8.4.6 Alert

Any natural event which results in a report of visible structural damage or assessment by Control Room personnel of actual damage to equipment needed for safe plant operation, Table 6.

Table 6
Plant Vital Areas

- Reactor Building
- Control Room
- Diesel Generator Engine and Board Rooms
- Standby Switchgear and Battery Rooms
- HPCS Switchgear and Battery Rooms
- Remote Shutdown Rooms
- Control Building HVAC Rooms
- Service Water Pump Rooms
- Electrical Protection Assembly Room
- PGCC Relay Room

NUMARC IC:

Natural and destructive phenomena affecting the plant vital area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

This EAL specifies areas in which structures containing systems and functions required for safe shutdown of the plant are located.

8.4.6 (Cont)

PEG Reference(s):

HA1.3

Basis Reference(s):

1. USAR Figure 1.2-2 Station Arrangement

2. NUREG 0737, Section II.B.2-2

8.4.7 Alert

Lake water level > 254 ft
OR
Intake water level < 233 ft

NUMARC IC:

Natural and destructive phenomena affecting the plant vital area.

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

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

This EAL covers high and low lake water level conditions that exceed levels which threaten vital equipment. The high lake level is based upon the maximum probable flood level. The low forebay water level corresponds to the minimum intake bay water level which provides adequate submergence to the service water pumps.

PEG Reference(s):

HA1.7

8.4.7 (Cont)

Basis Reference(s):

1. FSAR Section 2.4.5.2

2. FSAR Section 2.4.1.1

3. FSAR Section 9.2.5.3.1

9.0 OTHER

The EALs defined in categories 1.0 through 8.0 specify the predetermined symptoms or events which are indicative of emergency or potential emergency conditions, and which warrant classification. While these EALs have been developed to address the full spectrum of possible emergency conditions which may warrant classification and subsequent implementation of the Emergency Plan, a provision for classification of emergencies based on operator/management experience and judgment is still necessary. The EALs of this category provide the Shift Supervisor or Site Emergency Director the latitude to classify emergency conditions consistent with the established classification criteria, based upon their judgment.

9.1.1 Unusual Event

Any event, as determined by the Shift Supervisor or Site Emergency Director, that could lead to or has led to a potential degradation of the level of safety of the plant.

NUMARC IC:

Emergency Director judgement

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This EAL addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Site Emergency Director to fall under the Unusual Event emergency class.

9.1.1 (Cont)

From a broad perspective, one area that may warrant Site Emergency Director judgment is related to likely or actual breakdown of site specific event mitigating actions. Examples to consider include inadequate emergency response procedures, transient response either unexpected or not understood, failure or unavailability of emergency systems during an accident in excess of that assumed in accident analysis, or insufficient availability of equipment and/or support personnel. Another example to consider would be exceeding a plant safety limit as defined in Technical Specifications.

PEG Reference(s):

HU5.1

Basis Reference(s):

None

9.1.2 Unusual Event

Any event, as determined by the Shift Supervisor or Site Emergency Director, that could lead to or has led to a loss or potential loss of containment. (Attachment 2)

Loss of containment indicators may include a rapid unexplained decrease following initial increase in containment pressure.

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Containment loss/potential loss

Mode Applicability:

Power operations, Startup/Hot standby, Hot Shutdown

Basis:

This EAL addresses any other factors that are to be used by the Site Emergency Director in determining whether the containment barrier is lost or potentially lost. In addition, the inability to monitor the barrier should also be incorporated in this EAL as a factor in Emergency Director judgment that the barrier may be considered lost or potentially lost.

PEG Reference(s):

PC6.1

Basis Reference(s):

None

9.1.3 Alert

Any event, as determined by the Shift Supervisor or Site Emergency Director, that could cause or has caused actual substantial degradation of the level of safety of the plant.

NUMARC IC:

Emergency Director judgement

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This EAL addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Site Emergency Director to fall under the Alert emergency class.

PEG Reference(s):

HA6.1

Basis Reference(s):

None

9.1.4 Alert

Any event, as determined by the Shift Supervisor or Site Emergency Director, that could lead or has led to a loss or potential loss of either fuel clad or RCS barrier. (Attachment 2)

NUMARC IC:

N/A

9.1.4 (Cont)

FPB Loss/Potential Loss:

Loss or potential loss of either fuel clad or RCS barrier

Mode Applicability:

Power operations, Startup/Hot standby, Hot Shutdown

Basis:

This EAL addresses any other factors that are to be used by the Site Emergency Director in determining whether the fuel clad or RCS barriers are lost or potentially lost. In addition, the inability to monitor the barriers should also be considered in this EAL as a factor in Emergency Director judgment that the barriers may be considered lost or potentially lost.

PEG Reference(s):

FC5.1
RCS6.1

Basis Reference(s):

None

9.1.5 Site Area Emergency

As determined by the Shift Supervisor or Site Emergency Director, events are in progress which indicate actual or likely failures of plant systems needed to protect the public. Any releases are not expected to result in exposures which exceed EPA PAGs.

NUMARC IC:

Emergency Director judgement

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This EAL addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Site Emergency Director to fall under the emergency class description for Site Area Emergency.

9.1.5 (Cont)

PEG Reference(s):

HS3.1

Basis Reference(s):

None

9.1.6 Site Area Emergency

Any event, as determined by the Shift Supervisor or Site Emergency Director, that could lead or has led to either:

Loss or potential loss of both fuel clad and RCS barrier (Attachment 2)
OR
Loss or potential loss of either fuel clad or RCS barrier in conjunction with a loss of containment (Attachment 2)

Loss of containment indicators may include a rapid unexplained decrease following initial increase in containment pressure

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Loss or potential loss of both fuel clad and RCS barriers
OR
Loss or potential loss of either fuel clad or RCS barrier in conjunction with a loss of containment

Mode Applicability:

Power operations, Startup/Hot standby, Hot Shutdown
Basis:

This EAL addresses unanticipated conditions affecting fission product barriers which are not addressed explicitly elsewhere. Declaration of an emergency is warranted because conditions exist which are believed by the Site Emergency Director to fall under the emergency class description for Site Area Emergency.

Rapid unexplained loss of pressure (i. e., not attributable to drywell spray or condensation effects) following an initial pressure increase indicates a loss of containment integrity. Drywell pressure should increase as a result of mass and energy release into containment from a LOCA. Thus, drywell pressure not increasing under these conditions indicates a loss of containment integrity.

9.1.6 (Cont)

PEG Reference(s):

FC5.1
RCS6.1
PC6.1
PC1.1
PC1.2

Basis Reference(s):

None

9.1.7 General Emergency

As determined by the Shift Supervisor or Site Emergency Director, events are in progress which indicate actual or imminent core damage and the potential for a large release of radioactive material in excess of EPA PAGs outside the site boundary.

NUMARC IC:

Emergency Director judgement

FPB Loss/Potential Loss:

N/A

Mode Applicability:

All

Basis:

This EAL addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Site Emergency Director to be consistent with the General Emergency classification description.

Releases can reasonably be expected to exceed EPA PAG plume exposure levels outside the site boundary.

PEG Reference(s):

HG2.1

Basis Reference(s):

None

9.1.8 General Emergency

Any event, as determined by the Shift Supervisor or Site Emergency Director, that could lead or has led to a loss of any two fission product barriers and loss or potential loss of the third. (Attachment 2)

Loss of containment indicators may include a rapid unexplained decrease following initial increase in containment pressure

NUMARC IC:

N/A

FPB Loss/Potential Loss:

Loss of any two fission product barriers and loss or potential loss of the third

Mode Applicability:

Power operations, Startup/Hot standby, Hot Shutdown

Basis:

This EAL addresses unanticipated conditions affecting fission product barriers which are not addressed explicitly elsewhere. Declaration of an emergency is warranted because conditions exist which are believed by the Site Emergency Director to fall under the emergency class description for the General Emergency class.

Rapid unexplained loss of pressure (i. e., not attributable to drywell spray or condensation effects) following an initial pressure increase indicates a loss of containment integrity. Drywell pressure should increase as a result of mass and energy release into containment from a LOCA. Thus, drywell pressure not increasing under these conditions indicates a loss of containment integrity.

PEG Reference(s):

FC5.1
RCS6.1
PC6.1
PC1.1
PC1.2

Basis Reference(s):

None

ATTACHMENT 2

FISSION PRODUCT BARRIER LOSS & POTENTIAL LOSS INDICATORS

Fission Product Barrier Loss/Potential Loss Matrix

(Those thresholds for which loss or potential is determined to be imminent, classify as though the threshold(s) has been exceeded)

Fuel Cladding

Potential Loss

- RPV water level cannot be restored and maintained > top of active fuel
- Emergency Director Judgment

Loss

- RPV water level cannot be restored and maintained > top of active fuel
- Coolant activity > 300 μCi/gm I-131 equivalent
- Drywell radiation $\geq$ 3100 R/hr
- Emergency Director Judgment

RCS

Potential Loss

- RCS leakage greater than 50 gpm inside the drywell
- Primary system is discharging into RB
  AND
  RB area radiation levels are >8.0 R/hr. in more than one area, N2-EOP-SC
- Primary system is discharging into RB
  AND
  RB area temperatures are >212°F in more than one area, N2-EOP-SC
- Emergency Director Judgment

Loss

- RPV water level cannot be restored and maintained > top of active fuel
- Primary containment pressure cannot be maintained < 1.68 psig due to coolant leakage
- Drywell radiation $\geq$ 41 R/hr
- Emergency Director Judgment

Fission Product Barrier Loss/Potential Loss Matrix

(Those thresholds for which loss or potential is determined to be imminent, classify as though the threshold(s) has been exceeded)

Containment

Potential Loss

- Drywell radiation $\geq$ 5.2E6 R/hr
- Emergency Director Judgment

Loss

- Primary containment venting is required due to PCPL
- Primary containment venting is required due to combustible gas concentrations
- Main Steam Line, RCIC steam line or RWCU isolation failure resulting in a release pathway outside containment
- Primary system is discharging into RB
  AND
  RB area radiation levels are >8.0 R/hr. in more than one area, N2-EOP-SC
- Primary system is discharging into RB
  AND
  RB area temperatures are >212°F in more than one area, N2-EOP-SC
- Emergency Director Judgment
  Loss of containment indication may include rapid unexplained decrease following initial increase in containment pressure

ATTACHMENT 3

WORD LIST/DEFINITIONS

Actuate

To put into operation; to move to action; commonly used to refer to automated, multi-faceted operations. "Actuate ECCS".

Adversary

As applied to security EALs, an individual whose intent is to commit sabotage, disrupt Station operations or otherwise commit a crime on station property.

Adequate Core Cooling

Heat removal from the reactor sufficient to prevent rupturing the fuel clad.

Alert

Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

Available

The state or condition of being ready and able to be used (placed into operation) to accomplish the stated (or implied) action or function. As applied to a system, this requires the operability of necessary support systems (electrical power supplies, cooling water, lubrication, etc.).

Can/Cannot be determined

The current value or status of an identified parameter relative to that specified can/cannot be ascertained using all available indications (direct and indirect, singly or in combination).

Can/Cannot be maintained above/below

The value of the identified parameter(s) is/is not able to be kept above /below specified limits. This determination includes making an evaluation that considers both current and future system performance in relation to the current value and trend of the parameter(s). Neither implies that the parameter must actually exceed the limit before the action is taken nor that the action must be taken before the limit is reached.

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

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

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

Close

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

To make an electrical connection to supply power.

Confirm/Confirmation

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

Contiguous

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

Control

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

Decrease

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

Discharge

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

Drywell

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

Enter

To go into.

Establish

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

Evacuate

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

Exceeds

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

Exist

To have being with respect to understood limitations or conditions.

Failure

A state of inability to perform a normal function.

General Emergency

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

If

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

Increase

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

Indicate

To point out or point to; to display the value of a process variable; to be a sign or symbol.

Initiate

The act of placing equipment or a system into service, either manually or automatically. Activation of a function or protective feature (i.e. initiate a manual scram).

Injection

The act of forcing a fluid into a volume or vessel.

Intrusion

The act of entering without authorization

Loss

Failure of operability or lack of access to.

Maintain

Take action, as necessary, to keep the value of the specified parameter within the applicable limits.

Maximum Safe Operating (parameter)

The highest value of the identified operating parameter beyond which, required personnel access or continued operation of equipment important to safety cannot be assured.

Monitor

Observe and evaluate at a frequency sufficient to remain apprised of the value, trend, and rate of change of the specified parameter.

Notify

To give notice of or report the occurrence of; to make known to; to inform specified personnel; to advise; to communicate; to contact; to relay.

Open

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

To break an electrical connection which removes a power supply from an electrical device.

To make available for entry or passage by turning back, removing, or clearing away.

Operable

Able to perform it's intended function

Perform

To carry out an action; to accomplish; to affect; to reach an objective.

Primary Containment

The airtight volume immediately adjacent to and surrounding the RPV, consisting of the drywell and wetwell in a BWR plant.

Primary System

The pipes, valves, and other equipment which connect directly to the RPV or reactor coolant system such that a reduction in RPV pressure will effect a decrease in the steam or water being discharged through an unisolated break in the system.

Remove

To change the location or position of.

Report

To describe as being in a specific state.

Require

To demand as necessary or essential.

Restore

Take the appropriate action requires to return the value of an identified parameter to within applicable limits.

Rise

Describes an increase in a parameter as the result of an operator or automatic action.

Sample

To perform an analysis on a specified media to determine its properties.

Scram

To take action to cause shutdown of the reactor by rapidly inserting a control rod or control rods (BWR).

Secondary Containment

The airtight volume immediately adjacent to or surrounding the primary containment in a BWR plant.

Shut down

To perform operations necessary to cause equipment to cease or suspend operation; to stop. "Shut down unnecessary equipment."

Shutdown

As applied to the BWR reactor, subcritical with reactor power below the heating range.

Site Area Emergency

Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels except near the site boundary.

Suppression pool

The volume of water in a BWR plant intended to condense steam discharged from a primary system break inside the drywell.

Sustained

Prolonged. Not intermittent or of transitory nature

Transient

Events of off-normal nature such as; scrams, runbacks involving >25% thermal power changes, ECCS injections or thermal power oscillations >10%.

Trip

To de-energize a pump or fan motor; to position a breaker so as to interrupt or prevent the flow of current in the associated circuit; to manually activate a semi-automatic feature.

Unavailable

Not able to perform it's intended function

Uncontrolled

An evolution lacking control but is not the result of operator action.

Unplanned

Not as an expected result of deliberate action.

Until

Indicates that the associated prescribed action is to proceed only so long as the identified condition does not exist.

Unusual Event

Events are in process 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 unless further degradation of safety systems occurs.

Valid

Supported or corroborated on a sound basis.

Vent

To open an effluent (exhaust) flowpath from an enclosed volume; to reduce pressure in an enclosed volume.

Verify

To confirm a condition and take action to establish that condition if required. "Verify reactor trip."

Vital Area

Any plant area which contains vital equipment.