Carolina Power & Light Company
Harris Nuclear Plant
PO Box 165
New Hill NC 27562

JAN 1 4 2000

SERIAL: HNP-00-008
10 CFR 50, Appendix E

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

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
CHANGES TO EMERGENCY PLAN IMPLEMENTING PROCEDURES

Dear Sir or Madam:

In accordance with 10 CFR 50, Appendix E, Carolina Power & Light Company is transmitting one copy each of recently revised Harris Nuclear Plant Emergency Plan implementing procedures. The enclosure to this letter identifies the emergency plan implementing procedures revised.

Questions regarding this submittal may be referred to Mr. J. H. Eads at (919) 362-2646.

Sincerely,

D. B. Alexander

D. B. Alexander
Manager, Regulatory Affairs
Harris Nuclear Plant

MGW

Enclosure

c: Mr. J. B. Brady (NRC Senior Resident Inspector, HNP)
Mr. Rich Laufer (NRR Project Manager, HNP)
Mr. L. A. Reyes (NRC Regional Administrator, Region II) with two copies of procedures

A045

CHANGES TO EMERGENCY PLAN IMPLEMENTING PROCEDURES

PROCEDURE NUMBER	TITLE	EFFECTIVE DATE
PEP-110, Revision 5	Emergency Classification and Protective Action Recommendations	12/16/99
PEP-310, Revision 8	Notifications and Communications	12/16/99
PEP-342, Revision 1	Core Damage Assessment	12/30/99

CAROLINA POWER & LIGHT COMPANY

SHEARON HARRIS NUCLEAR POWER PLANT

PLANT OPERATING MANUAL

VOLUME 2

PART 5

PROCEDURE TYPE: Plant Emergency Procedure

NUMBER: PEP-110

TITLE: Emergency Classification and Protective Action Recommendations

Table of Contents

1.0 PURPOSE

1. The purpose of this procedure is to provide guidance on the use of Emergency Action Levels (EALs) for classifying an emergency. This implements Section 4.1 of PLP-201.

2. This procedure provides guidelines for determining Protective Action Recommendations (PARs) to be made to offsite authorities during a General Emergency. This implements Section 4.5 of PLP-201.

3. This procedure provides guidance for summarizing events and actions taken during an event for use during facility turnover and facility briefings. This implements Section 2.3 of PLP-201.

4. This procedure provides guidance for event termination and entry into Recovery. This implements Section 6.7 of PLP-201.

2.0 INITIATING CONDITIONS

1. Conditions exist which, in the judgment of the Superintendent-Shift Operations (S-SO), could be classified as an emergency.

2. Entry into the Emergency Action Level network has been directed by any of the Emergency Operating Procedures, Fire Protection Procedures, Abnormal Operating Procedures, or any other procedure.

3. A Critical Safety Function Status Tree (CSFST) on the Safety Parameter Display System has produced a valid red or magenta output and monitoring of the CSFSTs has been authorized in accordance with an approved procedure.

4. Notification has been received from the senior member of the Security Organization, or his designee, that a "Security Alert" or "Security Emergency" has been initiated.

5. Entry into the Emergency Action Level (EAL) Flowpath has been made at the discretion of the Site Emergency Coordinator for the purposes of reclassification.

6. A General Emergency has been declared.

7. Conditions have been stabilized and the Site Emergency Coordinator is preparing to terminated the emergency and enter into Recovery as per PEP-500.

3.0 PROCEDURE STEPS

3.1 Emergency Classification

NOTE:
- Implementation of this Section does not constitute an emergency.
- This section serves as a guideline to assist in comparison of plant conditions with Emergency Action Levels to evaluate whether an emergency should be declared.

1. Once implemented, this section shall remain in effect until either:
   a. The determination has been made by the Superintendent-Shift Operations or his designated alternate, that an Emergency Action Level has not been exceeded.
   b. Conditions which resulted in declaration of an emergency have been resolved and the emergency has been terminated.
2. Enter the Emergency Action Level (EAL) Flowpath at Entry Point X, unless directed to another entry point.
3. The Flowpath may be entered at any time at the discretion of the Site Emergency Coordinator (SEC-CR) or Superintendent-Shift Operations or designee. The Flowpath can be reentered as appropriate in order to check the classification or to reclassify an event in progress.

CAUTION

The highest emergency class for which an Emergency Action Level was exceeded shall be declared.

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4. Complete the Flowpath, and if an emergency is declared, perform notifications in accordance with the highest level condition indicated on the EAL STATUS BOARD.
5. Implement PEP-230 and/or PEP-240 as appropriate.

3.2 Plant Based Protective Action Recommendations (PARs)

1. Use Attachment 3, "Protective Action Recommendation Process" as an aid in determining the proper PAR.
2. At a minimum, evacuation of a 2 mile radius and 5 miles downwind (with sheltering of all other Subzones) will be recommended for a General Emergency declaration.

3.2 Plant Based Protective Action Recommendations (PARs) (continued)

3. Evacuation of a 5 mile radius and 10 miles downwind (with sheltering of all other Subzones) will be recommended for plant conditions in which:

   a. Substantial core damage is imminent or has occurred. Indications that substantial core damage is imminent or has occurred include:

      (1) Core damage estimations >1% Melt.

      (2) Core Exit Thermocouple readings ≥ 2300° F.

      (3) Core uncovered > 30 minutes.

   b. A significant loss of reactor coolant is imminent or has occurred. Indications that a significant loss of reactor coolant is imminent or has occurred include:

      (1) Containment Radiation Monitors reading:

         - >10,000 R/Hr with no containment spray.

         - >4,000 R/Hr with containment spray on.

      (2) Containment hydrogen gas concentration >1%.

      (3) Rapid vessel depressurization.

      (4) A large break loss of coolant accident.

   c. Containment failure (primary or S/G) is imminent or has occurred. Indications that containment failure (primary or S/G) is imminent or has occurred include:

      (1) A release of radioactivity can not be maintained below the General Emergency EAL criteria.

      (2) Primary containment pressure can not be maintained below design basis pressure which is 45 psig.

      (3) Primary containment H_2 gas concentration can not be maintained below combustible limits which is 4% by volume.

      (4) Faulted/Ruptured S/G with a relief valve open.

4. Containment monitors can provide indication of both core damage and RCS breach. Monitor values used to determine a specific amount of core damage are dependent on plant conditions, power history, and time after shutdown. Monitor readings used to quantify an amount of damage or coolant leakage should be complimented by other indications and engineering judgment.

3.2 Plant Based Protective Action Recommendations (PARs) (continued)

5. If a release is in progress:

   a. Perform dose assessment as soon as possible to determine if PAGs are exceeded and if additional Subzones require evacuation.

   b. Add any Subzones requiring evacuation as determined by dose assessment to the plant based PARs.

6. If no release is in progress:

   a. Perform dose projections on possible conditions as time permits to determine if PAGs could be exceeded.

   b. Consider adding any Subzones requiring evacuation as determined by dose projection to the plant based PARs.

3.3 Dose Assessment Based Protective Action Recommendations (PARs)

NOTE: Dose projections are not required to support the decision process in Attachment 3, "Protective Action Recommendation Process."

1. In the event dose assessment results indicate the need to recommend actions beyond the outer EPZ boundaries, that is past 10 miles:

   a. Dispatch Environmental Teams to downwind areas to verify the calculated exposure rates prior to issuing PARs outside the EPZ.

   b. Many assumptions exist in dose assessment calculations, involving both source term and meteorological factors, which make computer predictions over long distances highly questionable.

2. From the Control Room: If a release is in progress and time permits, perform offsite dose assessment in accordance with PEP-340 to determine whether the plant based protective actions of Attachment 3 are adequate.

3. From the Emergency Operations Facility: Conduct offsite dose assessment in accordance with PEP-340 to determine whether the plant based protective actions of Attachment 3 are adequate using the following methods as applicable:

   a. Monitored Release:

      (1) If a release is in progress, assess the calculated impact to determine whether the plant based PARs of Attachment 3 are adequate.

3.3. Dose Assessment Based Protective Action Recommendations (PARs) continued)

(2) If a release is not in progress, use current meteorological and core damage data to project effluent monitor threshold values which would require 2, 5, and 10 mile evacuations (Attachment 3). Reestablish threshold values whenever meteorological conditions or core damage assessment values change.

b. Containment Leakage/Failure:

(1) If a release is in progress, assess the calculated impact to determine whether the plant based PARs of Attachment 3 are adequate.

(2) If a release is not in progress, use current meteorological and core damage data on various scenarios (design leakage, failure to isolate, catastrophic failure) to project the dose consequences.

- Determine whether the plant based PARs of Attachment 3 are adequate.
- Reestablish scenario values whenever meteorological conditions or core damage assessment values change.

c. Field Survey Analysis: Actual field readings from Environmental Teams should be compared to dose assessment results and used as a dose projection method to validate calculated PARs and to determine whether the plant or release based protective actions of Attachment 3 are adequate.

d. Release Point Analysis: Actual sample data from monitored or unmonitored release points should be utilized in conjunction with other dose assessment and projection methods to validate calculated PARs and to determine whether the plant based protective actions of Attachment 3 are adequate.

4. The Emergency Response Manager and the Radiological Control Manager shall discuss dose assessment and projection analysis results and evaluate their applicability prior to issuing PARs to the State if possible.

3.4 Downgrading the Emergency Classification Level

1. If the action level currently has abated to a lower declaration or the situation has been resolved prior to completion of off-site reporting:

a. Declare the highest classification for which an Emergency Action Level was exceeded, if not already done, and

3.4 Downgrading the Emergency Classification Level (continued)

b. Downgrade immediately to the emergency classification appropriate for the present conditions.

2. Downgrading of an emergency is performed by issuing a notification to a lower emergency classification level whenever plant conditions improve to satisfy the affected Emergency Action Levels. However, the following guidelines apply:

a. If the Emergency Response Manager (ERM) position is activated, he shall be consulted before downgrading occurs.

b. If the NRC Director of Site Operations position is activated, he should be consulted before downgrading occurs.

c. If offsite Protective Action Recommendations have been made, the SEC-TSC shall consult with the ERM and with State and County authorities, prior to downgrading. It is recommended that any off-site Protective Action Recommendations be completed prior to downgrading of a General Emergency.

d. Where lasting damage has occurred to the fission product barriers or to safety systems, the ERM should transition to PEP-500 rather than a simple downgrade of the emergency.

e. For Alert or higher classifications, unless the conditions causing emergency action levels are very quickly resolved (less than approximately 30 minutes), downgrading should not occur until after the TSC and EOF are activated.

3.5 Emergency Termination and Transition to Recovery

1. If entering Recovery from an Unusual Event, determine the need for a Recovery Plan and support organization.

a. Generally, the activities following an Unusual Event will not require the formation of a Recovery Organization or a transition period prior to event termination and entry into Recovery.

b. Refer to PEP-500 for further guidance if recovery efforts following an Unusual Event extend beyond offsite notification and the generation of required reports.

2. Complete the Termination Checklist (Attachment 5).

a. If conditions will allow for the termination of the emergency and entry into Recovery, exit this procedure and enter PEP-500, "Recovery."

3.5 Emergency Termination and Transition to Recovery (continued)

b. If conditions do no support termination of the emergency and entry into Recovery, continue following the guidance provided in Section 3.1.

4.0 GENERAL

4.1 Guidelines for Use of the EAL Flowpath

1. Equivalent parameters or redundant instrumentation, should be utilized whenever possible to confirm the validity of instrumentation response when evaluating Emergency Action Levels.

2. If, at any time, a General Emergency declaration is warranted, the SEC is to note the EAL Reference Number on the EAL status board. Immediately declare a General Emergency and carry out the appropriate actions.

3. If an event other than a General Emergency is warranted, the SEC is to circle the indicated level, note the EAL Reference Number on the EAL STATUS BOARD and continue through the Flowpath. Upon completion of the Flowpath the highest indicated level shall be declared.

4. The Flowpath can be entered or reevaluated at the discretion of the SEC.

5. The highest emergency class for which an Emergency Action Level was exceeded shall be declared.

4.2 Specific Rules for Use of the EAL Flowpath

1. Entry into the EAL Flowpath will be via Entry Point X unless otherwise specifically directed by an approved plant procedure or by the EAL Flowpath itself.

2. The MOST RECENT information is to be utilized, when answering the questions asked in the EAL Flowpath. The information available may precede the event that is in progress, but it should be used until superseded by new information. As an example, the Flowpath asks if RCS activity is greater than 300 uCi/cc. The SEC is to use the last sample results (for example 10 uCi/cc) until the on-duty chemist reports otherwise.

3. When new data is available, the SEC is to reenter the EAL Flowpath at entry point X, unless directed by an approved procedure to enter at Point T, U, V, or Y.

4. When the Fission Product Barrier Analysis states to "Indicate a Fission Product Barrier (FPB) to be Breached, Jeopardized, or Intact," the SEC is to indicate (for example, with an X or check mark) the status on the FPB Status Board, before continuing with the Flowpath.

4.2 Specific Rules for Use of the EAL Flowpath (continued)

5. If any item on the EAL Flowpath cannot be answered, it is to be circled and assumed to be satisfactory until proven otherwise and evaluation of the remainder of the Flowpath is continued without delay. Samples/analysis are to be requested, if the information is unavailable or suspect. This is acceptable because sufficient backup instrumentation is available, and utilized, so that declaration of the proper EAL should not be impeded.

NOTE: The term "functional" should not be confused with the term "operable" (that is, if a component is declared inoperable per Technical Specifications, it may still be functional if it can fulfill its desired task under current conditions).

6. The "Functions Required For Shutdown" Table (EAL Table 3) list those items required for the plant to achieve and maintain shutdown and cooldown conditions.

   a. If the plant is in Modes 1, 2, or 3, then both the Mode 3 and the Modes 4-5 columns apply.

   b. If the plant is in Mode 4 or 5, then only the Mode 4-5 column applies.

7. If the plant is in Mode 5 and no charging pumps are available, an Alert should be declared only if other means of charging (that is, RHR from the RWST) are unavailable.

8. When a "Continuing Action" is encountered, record on the EAL Status Board:

   a. The time that the event began.

   b. The time that the time limit expires.

   c. The required time duration.

   d. The current EAL that will be affected when the time expires.

NOTE: No interpretations are currently applicable to the EALs.

9. Interpretations of certain Emergency Action Levels may be provided for use in determining the applicability of the particular Emergency Action Level wording to the existing conditions if:

   a. The interpretation does not change the intent of the EAL.

   b. The interpretation has been reviewed and approved by the Plant Nuclear Safety Committee.

4.2 Specific Rules for Use of the EAL Flowpath (continued)

c. The interpretation is included as an attachment to this procedure.

d. Emergency Action Level Flowpaths shall be annotated by a "#" sign followed by a number to key the user to any applicable EAL interpretations.

4.3 Protective Action Recommendations (PARs) General Guidance

1. PARs are made by HNP personnel whenever a General Emergency is declared. Additionally, if in the opinion of the Emergency Response Manager, or the SEC-CR if the EOF is not yet activated, conditions warrant the issuance of PARs, a General Emergency will be declared (HNP will not issue PARs for any accident classified below a General Emergency).

2. PARs provided in response to a radioactive release include evacuation and taking shelter.

   a. Evacuation is the preferred action unless external conditions impose a greater risk from the evacuation than from the dose received.

   b. HNP personnel do not have the necessary information to determine whether offsite conditions would require sheltering instead of an evacuation. Therefore, an effort to base PARs on external factors (such as road conditions, traffic/traffic control, weather or offsite emergency worker response) should not be attempted.

3. At a minimum, a plant condition driven PAR to evacuate a 2 mile radius and 5 miles downwind, and shelter all other Subzones, is issued at the declaration of a General Emergency. Depending on plant conditions, a 5 mile radius and 10 miles downwind, and shelter all other Subzones, may be issued instead of the minimum PAR.

   a. PARs are included with the initial and follow-up notifications issued at a General Emergency.

   b. The PAR must be provided to the State within 15 minutes of (1) the classification of the General Emergency or (2) any change in recommended actions.

   c. The PAR must be provided to the NRC as soon as possible and within 60 minutes of (1) the classification of the General Emergency or (2) any change in recommended actions.

4. The Emergency Response Manager, or the SEC-CR if the EOF is not yet activated, may elect to specify PARs for any combinations of Subzones or the entire EPZ (or beyond) regardless of plant and dose based guidance.

4.3 Protective Action Recommendations (PARs) General Guidance (continued)

5. PARs should not be extended based on the results of dose projections unless the postulated release is likely to occur within a short period of time. Plant based PARs are inherently conservative such that expanding the evacuation zone as an added precaution would result in a greater risk from the evacuation than from the radiological consequences of a release. It also would dilute the effectiveness of the offsite resources used to accommodate the evacuation.

6. Protective actions taken in areas affected by plume deposition following the release are determined and controlled by offsite governmental agencies.

   a. HNP is not expected to develop offsite recommendations involving ingestion or relocation issues following plume passage.

   b. HNP may be requested to provide resources to support the determination of post plume protective actions.

7. Throughout the duration of a General Emergency, assess plant conditions and effluent release status to ensure the established PARs are adequate.

5.0 REFERENCES

5.1 PLP-201, "Emergency Plan"

1. Section 4.1, "Emergency Classification"

2. Section 4.5.1, "Protective Action Guides"

5.2 Referenced Plant Emergency Procedures

1. PEP-230, "Control Room Operations"

2. PEP-240, "Activation and Operation of the Technical Support Center"

3. PEP-270, "Activation and Operation of the Emergency Operations Facility"

4. PEP-310, "Notifications and Communications"

5. PEP-500, "Recovery"

5.3 Other References

1. North Carolina Emergency Response Plan in Support of the Shearon Harris Nuclear Power Plant"

2. EPA 400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents"

3. NUREG-0654 Supplement 3, "Criteria for Protective Action Recommendations for Severe Accidents"

4. NUREG/BR-0150, Vol. 4, Rev.4, US NRC, RTM-96 Response Technical Manual

5. Regulatory Guide 1.101 "Emergency Planning and Preparedness for Nuclear Power Plants"

6. EPPOS No.1 "Emergency Preparedness Position (EPPOS) on Acceptable Deviations to Appendix 1 to NUREG-0654/FEMA-REP-1"

6.0 SPECIAL TOOLS AND EQUIPMENT

1. EAL Flow Paths: Mounted EAL Flow Paths are maintained in the Main Control Room, TSC and EOF.

2. PAR Boards: Mounted PAR boards, based on Attachment 3, are maintained in the Main Control Room, TSC and EOF.

7.0 DIAGRAMS AND ATTACHMENTS

See Table of Contents

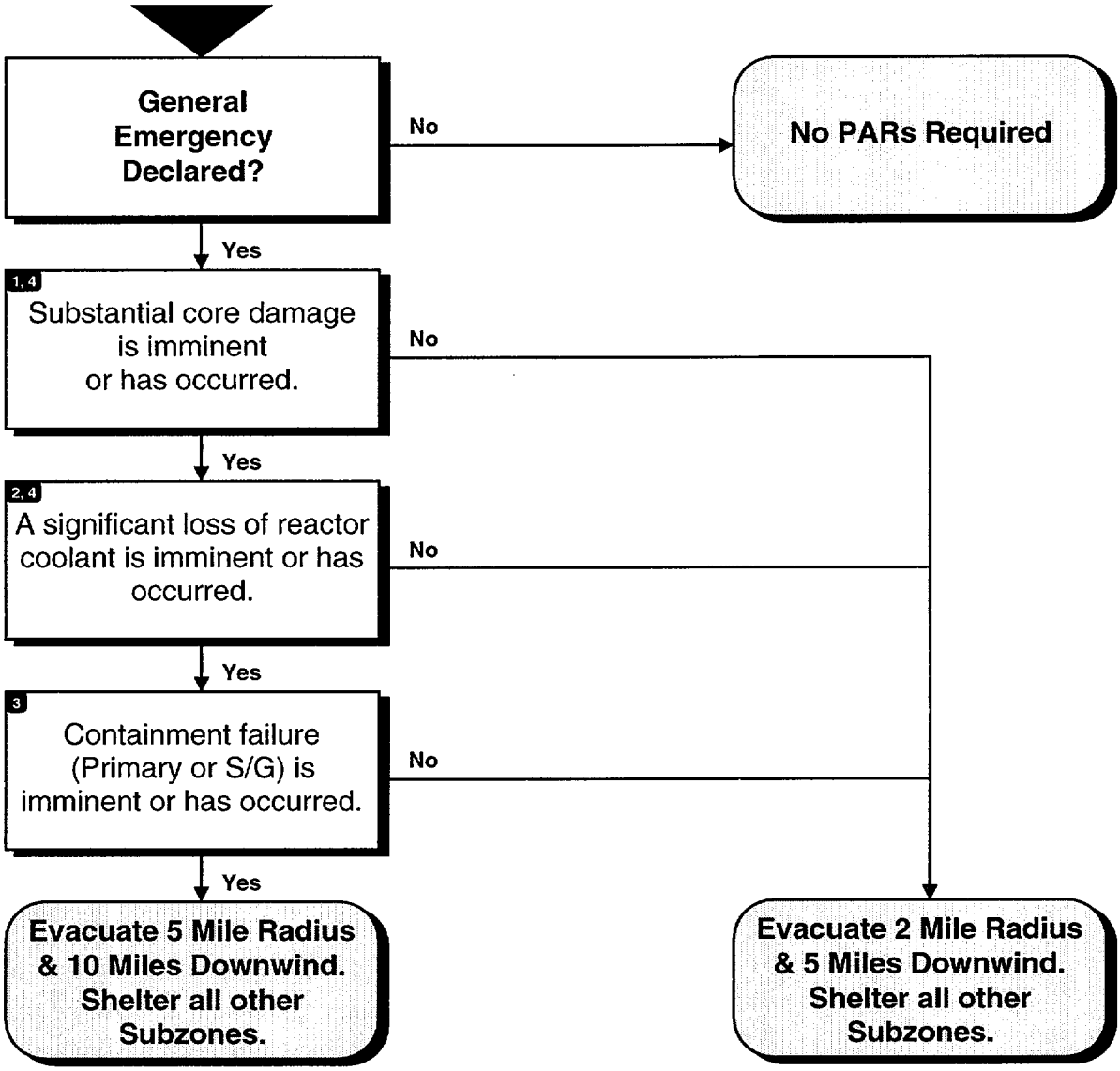
EAL FLOWPATH SIDE 1

A Folded Copy of the Emergency Action Level
Flowpath (Rev. 99-1) is contained in the
Plastic Sleeve Following This Hardcopy Page

EAL FLOWPATH SIDE 2

A Folded Copy of the Emergency Action Level
Flowpath (Rev. 99-1) is contained in the
Plastic Sleeve Following This Hardcopy Page

PROTECTIVE ACTION RECOMMENDATION PROCESS



5 Mile Radius, 10 Miles Downwind

Wind Direction (From °)	Evacuate Subzones	Shelter Subzones
348º - 010º	A,B,C,D,H,I,K,L	E,F,G,J,M,N
011º - 034º	A,B,C,D,H,I,J,K,L	E,F,G,M,N
035º - 079º	A,B,C,D,I,J,K,L,M	E,F,G,H,N
080º - 101º	A,B,C,D,J,K,L,M	E,F,G,H,I,N
102º - 124º	A,B,C,D,J,K,L,M,N	E,F,G,H,I
125º - 146º	A,B,C,D,K,L,M,N	E,F,G,H,I,J
147º - 191º	A,B,C,D,E,K,L,M,N	F,G,H,I,J
192º - 214º	A,B,C,D,E,K,L,N	F,G,H,I,J,M
215º - 236º	A,B,C,D,E,F,K,L	G,H,I,J,M,N
237º - 281º	A,B,C,D,E,F,G,K,L	H,I,J,M,N
282º - 326º	A,B,C,D,F,G,H,K,L	E,I,J,M,N
327º - 347º	A,B,C,D,G,H,I,K,L	E,F,J,M,N

2 Mile Radius 5 Miles Downwind

Wind Direction (From °)	Evacuate Subzones	Shelter Subzones
327º - 010º	A,D,K	B,C,E,F,G,H,I,J,L,M,N
011º - 056º	A,K	B,C,D,E,F,G,H,I,J,L,M,N
057º - 124º	A,K,L	B,C,D,E,F,G,H,I,J,M,N
125º - 191º	A,B,L	C,D,E,F,G,H,I,J,K,M,N
192º - 214º	A,B	C,D,E,F,G,H,I,J,K,L,M,N
215º - 259º	A,B,C	D,E,F,G,H,I,J,K,L,M,N
260º - 281º	A,B,C,D	E,F,G,H,I,J,K,L,M,N
282º - 304º	A,C,D	B,E,F,G,H,I,J,K,L,M,N
305º - 326º	A,C,D,K	B,E,F,G,H,I,J,L,M,N

PROTECTIVE ACTION RECOMMENDATION PROCESS

1. Indications that substantial core damage is imminent or has occurred include:
   a) Core damage > 1% Melt.
   b) Core Exit Thermocouple readings ≥ 2300º F.
   c) Core uncovered > 30 minutes.
2. Indications that a significant loss of reactor coolant is imminent or has occurred include:
   a) Containment radiation reading > 10,000 R/Hr without spray or > 4,000 R/Hr with spray.
   b) Containment hydrogen gas concentration > 1%.
   c) Rapid vessel depressurization.
   d) A large break loss of coolant accident.
3. Indications that containment failure (primary or S/G) is imminent or has occurred include:
   a) A release of radioactivity can not be maintained below the General Emergency EAL criteria.
   b) Primary containment pressure can not be maintained below design basis pressure which is 45 psig.
   c) Primary containment H_2 gas concentration can not be maintained below combustible limits which is 4% by volume.
   d) Faulted/Ruptured S/G with a relief valve open.
4. Accidents which result in a direct release pathway to the environment (for example, a faulted and ruptured S/G with water level below the tube bundles and a relief valve open would provide such a pathway) will most likely be thyroid dose limiting. For circumstances involving this type of accident sequence:
   a) Consider **any** Fuel Breach sufficient to warrant the determination that substantial core damage has occurred.
   b) Consider **any** RCS Breach sufficient to warrant the determination that a significant loss of reactor coolant has occurred.

Containment monitors can provide indication of both core damage and RCS breach. Monitor values used to determine a specific amount of core damage are dependent on plant conditions, power history and time after shutdown. Monitor readings used to quantify an amount of damage or coolant leakage should be complimented by other indications and engineering judgment.

<u>If a release is in progress:</u>

- Perform dose assessment as soon as possible to determine if PAGs are exceeded and if additional Subzones require evacuation.
- Add any Subzones requiring evacuation as determined by dose assessment to the plant based PARs.

<u>If no release is in progress:</u>

- Perform dose projection on possible conditions as time permits to determine if PAGs could be exceeded.
- Consider adding any Subzones requiring evacuation as determined by dose projection to the plant based PARs.

EVENT INFORMATION WORKSHEET

A) Emergency Classification

Time Declared: _____ am/pm

❑ Unusual Event ❑ Alert

❑ Site Area ❑ General

Provide a brief summary of the event and mitigating actions in progress:

EAL: _____

_____

_____

_____

_____

_____

_____

B) Fission Product Barrier Status

	Fuel	RCS	Cnmt
Intact:	❑	❑	❑
Jeopardy:	❑	❑	❑
Breached:	❑	❑	❑

C) Plant Conditions

❑ On-Line ❑ At Power: _____%

❑ Off-Line ❑ Cooling Down

❑ Cold Shutdown

Time of Rx Shutdown: _____ am/pm

❑ Stable ❑ Improving

❑ Unstable ❑ Same

❑ Deteriorating

Describe equipment, instrument, or other problems: _____

_____

_____

_____

_____

_____

_____

D) Radiological Release

❑ None ❑ Controlled

❑ Imminent ❑ Uncontrolled

❑ In Progress ❑ Below PAGs

❑ Above PAGs

Time Started: _____ am/pm

Noble Gas: _____ Ci/sec

Iodines: _____ Ci/sec

Projected Duration: _____ hours

E) Personnel Status

Missions in plant: ❑ No ❑ Yes

Injuries (No._____): ❑ No ❑ Yes

Contamination(s): ❑ No ❑ Yes

Over Exposure(s): ❑ No ❑ Yes

❑ Minor ❑ Major

Details (names of injured, status of family notification):

_____

_____

_____

_____

_____

F) CP&L Facility Activation Status

❑ TSC: _____ am/pm

❑ OSC: _____ am/pm

❑ EOF: _____ am/pm

❑ JIC: _____ am/pm

G) Offsite Assistance Requested

❑ None

❑ Medical _____ am/pm

❍ Ambulance ❍ Helicopter

❑ Fire Department _____ am/pm

❍ Holly Springs ❍ Apex

❑ Law Enforcement _____ am/pm

❍ Local ❍ State

EVENT INFORMATION WORKSHEET

H) Onsite Protective Actions

- ❑ None
- ❑ Assembly/Accountability
- ❑ Local Area(s) Evacuated
- ❑ Protected Area Evacuated
- ❑ Exclusion Area Evacuated
- ❑ Potassium Iodide Issued
- ❑ Employee Info Phone #: _____

I) Offsite Notifications (last issued)

State/County	Time: _____ am/pm
NRC	Time: _____ am/pm
News Release	Time: _____ am/pm
Hospital	Time: _____ am/pm
INPO	Time: _____ am/pm
ANI	Time: _____ am/pm

J) CP&L PARs

- ❑ None Issued, or
  - ○ Evac: A B C D E F G H I J K L M N
  - ○ Shelter: A B C D E F G H I J K L M N

(circle the affected subzones)

K) Offsite Facility Activation Status

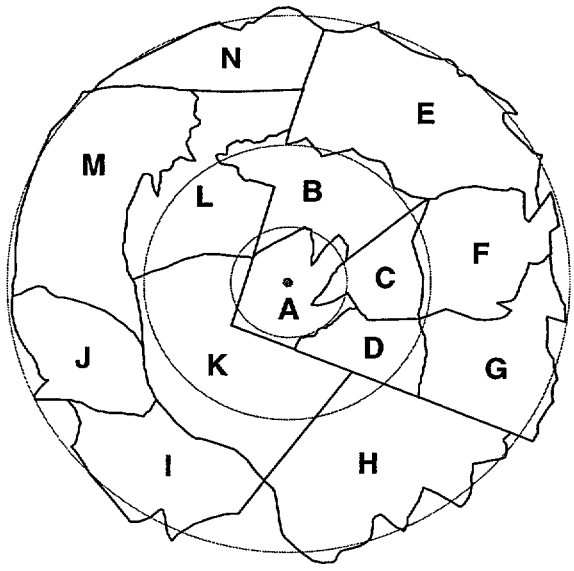
- ❑ Chatham County EOC: _____ am/pm
- ❑ Harnett County EOC: _____ am/pm
- ❑ Lee County EOC: _____ am/pm
- ❑ Wake County EOC: _____ am/pm
- ❑ State EOC: _____ am/pm
- ❑ NRC Incident Response Center: _____ am/pm

L) Offsite Actions/Response

- ❑ None Issued, or
  - ○ Schools
  - ○ Daycare
  - ○ Hospitals
  - ○ Rest Homes
  - ○ Lake Evacuations
  - ○ Other: _____
  - ○ Evac: A B C D E F G H I J K L M N
  - ○ Shelter: A B C D E F G H I J K L M N

(circle the affected subzones)

- ❑ Sirens Activated: _____ am/pm
- ❑ Tone Alerts Activated: _____ am/pm
- ❑ EAS Activated: _____ am/pm



Notes: _____

TERMINATION CHECKLIST

		True	False
1.	Conditions no longer meet an Emergency Action Level and it appears unlikely that conditions will deteriorate. List any EAL(s) which is/are still exceeded and a justification as to why a state of emergency is no longer applicable: _____ _____ _____ _____ _____ _____	❑	❑
2.	Plant releases of radioactive materials to the environment are under control (within Tech Specs) or have ceased and the potential for a uncontrolled radioactive release is acceptably low.	❑	❑
3.	The radioactive plume has dissipated and plume tracking is no longer required. The only environmental assessment activities in progress are those necessary to determine the extent of deposition resulting from passage of the plume.	❑	❑
4.	In-plant radiation levels are stable or decreasing, and acceptable given the plant conditions.	❑	❑
5.	The reactor is in a stable shutdown condition and long-term core cooling is available.	❑	❑
6.	The integrity of the Reactor Containment Building is within Technical Specification limits.	❑	❑
7.	The operability and integrity of radioactive waste systems, decontamination facilities, power supplies, electrical equipment and plant instrumentation including radiation monitoring equipment is acceptable.	❑	❑
8.	Any fire, flood, earthquake or similar emergency condition or threat to security no longer exists.	❑	❑

TERMINATION CHECKLIST

		True	False
9.	Any contaminated injured person has been treated and/or transported to a medical care facility.	❑	❑
10.	All required notifications have been made.	❑	❑
11.	Offsite conditions do not unreasonably limit access of outside support to the station and qualified personnel and support services are available.	❑	❑
12.	Discussions have been held with Federal, State and County agencies and agreement has been reached and coordination established to terminate the emergency.	❑	❑

It is not necessary that all responses listed above be 'TRUE'; however, all items must be considered prior to event termination and entry into Recovery. For example, it is possible that some conditions remain which exceed an Emergency Action Level following a severe accident but entry into Recovery is appropriate. Additionally, other significant items not included on this list may warrant consideration such as severe weather.

Comments:

_____

_____

_____

_____

_____

_____

_____

_____

Approved: _____ Date/Time: _____
Site Emergency Coordinator

Revision Summary For PEP-110, REV. 5

This revision's major change is the 99-1 revision of the EALs. Improvements in the EALS are:

- Reactivity control EAL assessment in place of boron dilution
- Revision of security events
- Clarification of allowed T.S. actions
- Addition of Turbine Bldg Drain rad monitor to table 1 and 3
- Addition of EAL reference numbers to aide offsite

Section	Revision
1.4	Changed Section 6.8 to 6.7 as the Plan recovery reference.
4.1.2.	Added, 'note the EAL Reference Number on the EAL Status Board and'.. to the statement
4.1.3.	Added 'the EAL Reference Number'.. to the statement
Att 1	Changed EAL Flowpath Rev. from 96-2 to 99-1.
Att 4	Changed Fuquay-Varina Fire Department to Apex Fire Department; added Mission in plant to Event Info Worksheet E and revised form number

OVERSIZE PAGE(S)

****

NOT CONVERTED INTO ELECTRONIC IMAGE FORM.

****

PAPER COPY IS AVAILABLE IN NRC FILE CENTER.

CAROLINA POWER & LIGHT COMPANY

SHEARON HARRIS NUCLEAR POWER PLANT

PLANT OPERATING MANUAL

VOLUME 2

PART 5

PROCEDURE TYPE:	Plant Emergency Procedure
NUMBER:	PEP-310
TITLE:	Notifications and Communications

TABLE OF CONTENTS

Section **Page**

1.0 PURPOSE

The purpose of this procedure is to provide instructions and documentation for:

1. Requesting assistance from Immediate Response Organizations (IROs).
2. Notifying HNP Emergency Response Organization personnel by automated and manual means.
3. Notification of offsite Emergency Response Organizations (EROs) and offsite authorities.
4. Notifications to the NEIL, INPO and ANI.

2.0 INITIATING CONDITIONS

1. An emergency has been declared.
2. An event has occurred which requires a response from an offsite support organization (such as a fire, medical or local law enforcement).

3.0 PROCEDURE STEPS

3.1 Immediate Response Organization Notifications

Instructions and documentation for response requests to offsite support organizations (fire, medical, law enforcement) is performed using Attachment 1.

3.2 Notifications Checklists

S-SO/ERM checklists for performing all initial notifications following the declaration of an emergency are documented using the following appropriate Attachment:

1. Attachment 2, Unusual Event
2. Attachment 3, Alert
3. Attachment 4, Site Area Emergency
4. Attachment 5, General Emergency

3.3 Notification of the Emergency Response Organization

NOTE: During normal working hours, ERO personnel should respond to the page or PA announcement by directly reporting to their assigned emergency response facility. Calls from the ERO should not be received by the Emergency Communicator in the MCR.

1. Activate the Dialogic System per Attachment 6.
2. If the Dialogic System fails, initiate a group page per Attachment 7.

3.3 Notification of the Emergency Response Organization (cont.)

3. If both Dialogic and the group page methods have failed:

   A. During normal working hours, manual call-out of unfilled ERO positions will be performed by the ALM at the direction of each emergency facility manager.

   B. During off-normal working hours, the CR must initiate a manual call-out of the ERO per Attachment 8.

4. Contact Emergency Preparedness if any malfunction of the Dialogic System occurs.

5. Dialogic System Deactivation

   The Dialogic System can be deactivated if an incorrect scenario has been entered or the System is making nuisance, invalid, or disruptive calls.

   A. Obtain the password and MCR Generic ID code from the Emergency Communicator's desk in the MCR or Radwaste Control Room.

NOTE: You must enter the first number of the password as the System is saying "Hello". If you wait too long the system will respond, "Hello, there is no activity at this time, goodbye" and hang up.

   B. Dial 2452 on a plant extension or dial 362-2452 if using a Southern Bell line.

      System response: "Hello"

   C. Enter the 4 digit password followed by the "#" key.

      System response: "Enter the scenario number you would like to work with."

   D. Enter the scenario number previously entered from Attachment 6, followed by a "#" key.

      System response: "You entered XX. Is this correct? Please press 9 for yes, 6 for no."

   E. Enter a '9'.

      System response: "That scenario is currently active. Please enter a 1 if you would like to complete (stop) it, a 2 if you would like to suspend (temporarily stop) it, or a 3 to exit."

3.3 Notification of the Emergency Response Organization (cont.)

F. Enter a '1'.

System response: "The System will respond with, "Are you sure this is what you want to do? Please press a 9 for yes, 6 for no."

G. Enter a '9'.

System response: "The selected scenario has been completed, goodbye."

H. Hang up.

3.4 State and County Emergency Notifications

CAUTION

Initial notification must occur within 15 minutes after the declaration of an emergency, a change in the classification level or a change in a Protective Action Recommendation.

Follow-up notification must occur within 60 minutes (unless directed otherwise by those agencies) of the last notification while in a declared emergency.

---

1. Prepare the Notification Message

A. Prepare the transmitted portion of the Emergency Notification Form (using the guidelines in Attachment 10 as necessary) by filling out either:

1) An electronic copy of the form on ERFIS/RTIN.

2) A hard copy of the form (Attachment 9).

B. The SEC-CR (or ERM if the EOF is activated) must review the message, edit as necessary, and approve it for release.

2. Transmit the Notification Message

NOTE: When the State and/or County Emergency Operations Centers (EOC's) are activated, they will request that notification are transmitted directly to the EOCs rather than the Warning Points.

A. Using ERFIS/RTIN, electronically fax the notification form to each of the required locations (all locations can be simultaneously faxed when using this method) **OR**,

3.4 State and County Emergency Notifications (cont.)

NOTE: If time constraints preclude manually faxing the notification form prior to communicating the message, proceed directly to step 3.B.

B. Using MCR or EOF fax machines:

1) Record the current time and date (24 hour clock) on Line 3 of the notification form.

2) Manually fax the notification form to each of the required locations (speed dial or direct number, from EPL-001, entry).

3. Communicate the Notification Message

A. If the required locations have been sent a faxed copy of the Emergency Notification Form, communicate the content of the form using the Faxed Method of Attachment 11.

B. If the required locations have not been sent a faxed copy of the Emergency Notification Form, communicate the content of the form using the Manual Reading Method of Attachment 12.

3.5 Nuclear Regulatory Commission Notifications

CAUTION

Initial notification must occur as soon as possible (but not to exceed one hour) following the declaration of an emergency or a change in the classification level, unless continuous communications are established.

Follow-up notification must occur within 60 minutes of the last message, unless continuous communications are established.

NOTE: Initial NRC notification may be performed using the State/County Emergency Notification Form in order to expedite notification communications from the Control Room.

As an aid to direct communications, when possible prepare an NRC Event Notification Worksheet (per AP-617) to assist with the transmission of information.

NOTE: Communications on the ENS are automatically recorded by the NRC.

1. Contact the NRC Headquarters Operations Officer at the NRC Incident Response Center by performing the following:

A. Pick up the receiver on the ENS telephone and call the NRC via one of the numbers listed on the phone.

3.5 Nuclear Regulatory Commission Notifications (cont.)

B. If the ENS phone is not operable, use a normal telephone line to contact the NRC Incident Response Center (the numbers are listed on ENS phone and in EPL-001).

2. When the Headquarters Operations Officer responds, say: "THIS IS THE HARRIS NUCLEAR PLANT." and provide the emergency notification information.

NOTE: Initial communications will likely be interrupted by patch-ins and/or requests to repeat information.

3. Respond to any requests for additional information that you can answer, otherwise, state that the information is not yet available and will be provided in a follow up message.

4. Record the name of the individuals contacted and time of contact.

NOTE: Within one hour of the initial event declaration, a qualified Emergency Communicator-NRC or SRO must be available to continuously communicate with the NRC via the Emergency Notification System (ENS) or commercial telephone line.

5. If the communication is being provided prior to ERO activation and activities in the Control Room require notifications to other organizations, tell them you are signing off. (They may request you stay on and leave the line open. If this occurs, notify the S-SO to see if he wishes to replace you or take other action.)

3.6 Notification of the INPO and ANI

CAUTION

Notification must occur within four (4) hours after declaration of an Alert, Site Area Emergency, or General Emergency.

---

1. Complete the Institute of Nuclear Power Operations (INPO) and American Nuclear Insurers (ANI) Notification Form (Attachment 13).

2. Using EPL-001, contact the INPO and ANI Duty Officers.

3. If contact is made with an answering machine or service:

A. Give the plant name, your name and telephone number for the Duty Officer to return the call.

B. When completing the form, enter "machine" instead of an individual's name.

3.6 Notification of the INPO and ANI (cont.)

4. Read the notification form directly to each Duty Officer and then record the name of each person notified, or

5. After notification is complete, record the date/time and sign the form.

3.7 Notification of Nuclear Electric Insurance Limited

NOTE: This notification is only applicable to events involving equipment damage.

1. The notification should be performed during normal working hours.

2. Notify the CP&L Corporate Insurance Administrator (see EPL-001) of the event and provide any details required for them to make the notification.

3.8 Transmittal of Plant Parameter Information to the TSC and EOF (ERFIS Failure)

1. Have the ALM call in additional personnel (while continuing with this procedure) as follows:

   A. Have a **licensed** operator report to the Main Control Room to assist with data transmittal.

   B. Have one member of the operations staff report to the TSC to assist with data receipt while continuing with this procedure.

   C. Have one member of the operations staff report to the EOF to assist with data receipt while continuing with this procedure.

   D. Provide additional administrative support in the TSC and EOF to post data, as needed.

2. A licensed operator in the MCR shall:

   A. Complete a copy of the Plant Parameter Information Form (Attachment 14) at 15 minute intervals, or as appropriate.

   B. Fax the PPIF form or verbally transmit the data to the TSC and EOF (see EPL-001).

3. TSC and EOF administrative personnel should post information as follows:

   A. Copy the PPIF forms and distribute to appropriate personnel within the facilities, including the NRC, as directed.

   B. Present the information by transcribing on status boards or project onto screens, as directed.

3.8 Transmittal of Plant Parameter Information to the TSC and EOF (cont.)

4. When additional Operations staff arrive in the TSC and EOF they will:

A. Provide updated plant information from the Main Control Room to the TSC and EOF.

B. Relieve the TSC SRO and EOF SRO of the duties associated with clarification of data within their facility.

C. Coordinate data needs of the OSC and JIC.

4.0 GENERAL

4.1 Regulations

Regulations state that "A licensee shall have the capability to notify responsible State and local governmental agencies within 15 minutes after declaring an emergency." This is satisfied when the event's emergency classification level has been directly communicated to least one of the agencies.

4.2 Working Hours

1. Normal working hours are 0730 to 1600, Monday through Friday.

2. Off-normal hours are 1600 to 0730, Monday through Friday, weekends and CP&L holidays.

4.3 ERO Call-Out

1. Call-out of the ERO begins by making a Public Address announcement on site and, normally, through activation of the Dialogic System.

A. During normal working hours, the pagers of key personnel are set off and calls are made to the work phone numbers of most ERO personnel (pool positions are excluded) until each position is filled.

B. During off-normal hours, the pagers of key personnel are set off and calls are made to the home phone numbers of all ERO personnel until each position is filled.

2. If the Dialogic System fails to perform as expected, a group page is initiated directly through the paging company.

A. During normal working hours, ERO personnel notified by the group page are to report directly to their facility without calling into the Control Room.

B. During off-normal hours, ERO personnel notified by the group page will call into the Control Room.

1) The first responder who meets FFD requirements will be instructed to fill their ERO position.

4.3 ERO Call-Out (cont.)

a. These personnel may have call tree responsibilities (see item 4.4 below).

b. Call tree responsibilities are to be accomplished prior to leaving for, or on the way to the Emergency Response Facilities.

2) Subsequent responders will be notified that their ERO position has already been filled but are to report to their Emergency Response Facility.

a. These personnel are to also.

b. They do not call out additional personnel.

4.4 ERO Call Trees

During off-normal hours, without Dialogic operating, additional personnel will be notified though a manual call tree as follows:

1. Selected On-Shift, OSC, TSC, EOF, and JIC personnel have designated responsibilities for calling in additional personnel. Individuals with these calling responsibilities are provided pocket cards with the work and home phone numbers of additional personnel they are assigned to contact.

2. On-shift personnel have the following responsibilities:

A. On-shift Maintenance personnel call in personnel as needed to augment on-shift staffing to meet the emergency requirements. As a minimum:

- 3 Electrical/I&C Personnel
- 2 Mechanical Personnel

B. On-shift E&RC personnel call in personnel as needed to augment on-shift staffing to meet the emergency requirements. As a minimum:

- 8 OSC RP Pool Personnel
- 4 EnMon Team Personnel
- 1 Chemistry Technician

4.4 ERO Call Trees (cont.)

3. OSC and TSC personnel have the following responsibilities:

A. The Technical Analysis Director calls:

- The AAT-STA

B. The Communications Director calls:

- The Emergency Communicator - NRC, who calls:
  - TSC SRO
- TSC Logkeeper, who calls:
  - The Administrative Team (2 support and 1 librarian)
  - The TSC ERFIS Operator
  - The TSC Telecom/Computer Support.

C. The Emergency Repair Director calls:

- The OSC Logkeeper, who calls:
  - The OSC Storekeeper
  - The Maintenance Planners (1 Mech, 1 Elect/I&C)

4. EOF personnel have the following responsibilities:

A. The Administrative & Logistics Manager calls:

- The Administrative Team Leader, who calls:
  - The EOF Logkeeper
  - The Administrative Team (2 support and 1 librarian)
  - The EOF Administrative Setup Leader, who calls:
    - ⇒ The EOF ERFIS Operator
    - ⇒ The EOF Telecom/Computer Support
    - ⇒ The EOF SRO

4.4 ERO Call Trees (cont.)

B. The Technical Analysis Manager calls:

- EOF Engineering Staff members (1 Mechanical, 1 Electrical, 1 I&C, 1 Civil).

C. The Radiological Control Manager calls:

- The Technical Advisor
- The Environmental Field Coordinator

D. The Communications Manager calls:

- The Emergency Communicator-Corp. Comm/JIC
- Representatives for the State, Chatham, Harnett, Lee, and Wake County EOCs

E. The Dose Projection Team Leader calls:

- 2 Dose Projection Team Members

5. JIC personnel have the following responsibilities:

A. The JIC Director calls:

- The Technical Specialist
- The Public Information Coordinator, who calls:
  - 4 Public Information Specialists
- The JIC Administrative Coordinator, who calls:
  - 2 Administrative Assistants
  - The Media Badging Specialist
  - CPB Facilities and Convention Center Setup Personnel

5.0 REFERENCES

5.1 Referenced Plant Emergency Procedures

1. PEP-110, "Emergency Classification and Protective Action Recommendations"
2. PEP-230, "Control Room Operations"
3. PEP-270, "Activation and Operation of the Emergency Operations Facility"
4. PEP-340, "Radiological Assessment"
5. PEP-350, "Protective Actions"

5.2 Other References

1. AP-617, "Reportability Determination"
2. EPL-001, "Emergency Phone List"
3. NRC IN 98-08, " Information Likely to be Requested if an Emergency is Declared"

6.0 DIAGRAMS/ATTACHMENTS

See Table of Contents

REQUEST FOR OFFSITE SUPPORT

Support Determination

FIRE

☐ Apex Fire Department (Inside or outside the Protected Area) 911

☐ Holly Springs Fire Department (Inside Protected Area) 911

MEDICAL

NOTE: Duke Life Flight will not transport a chemically or radiologically contaminated patient.

NOTE: Carolina Air Care or Duke Life Flight may be contacted directly for helicopter transport of an injured individual (Bypass 911 Dispatch).

☐ Apex Rescue Squad (Ambulance) 911

☐ Carolina Air Care (Helicopter) 1-800-247-6264

☐ Duke Life Flight (Helicopter) 1-800-362-5433

OTHER

☐ Wake County Sheriff Department 911

☐ Other (specify): _____

Contacting the Support Organization

NOTE: If the telephone cannot be used or 911 does not answer, direct Security to relay the message by radio.

NOTE: When contacting 911, use an outside extension (362-7992 or 362-7997 from the MCR) this will provide the dispatch center with information specifying HNP as the originating location.

NOTE: 911 calls are routed to the Wake County center. If Apex Rescue of Fire Department is requested, the call will be transferred to the Apex dispatcher. When the transfer occurs, repeat the message.

1. Contact the selected organization (from above) and say: **"This is the Harris Nuclear Plant, please dispatch the (*as checked above*)"**

2. Provide and document a brief description of the reason for the request:

_____

_____

_____

_____

REQUEST FOR OFFSITE SUPPORT

Contacting the Support Organization (cont.)

NOTE: Do not allow the following request to delay emergency response (If not immediately available, a call back with the information is acceptable).

3. Request information: # Vehicles: _____ # Personnel: _____ ETA: _____

4. Record the time and date of the call: _____/_____

Callback Requests:

If a call back verification is received, record:

Name of caller:_____ Time of call back: _____

Notify Security:

Notify Security of the following information, if available:

☐ Type of response (fire, sheriff, ambulance).

☐ Where to meet the responder (Security Building gate, helicopter landing zone).

☐ Number of vehicles and personnel responding.

☐ Estimated time of arrival.

Notify HP:

Notify the Duty HP Supervisor (or RCD when in an Alert or higher classification) of the following information, if available:

☐ Type of response (fire, sheriff, ambulance).

☐ Where the responder will be going.

☐ Estimated time of arrival.

Additional Notifications:

1. If applicable, alert the receiving hospital to initiate their plan for handling contaminated patients (the destination can be obtained from the responding organization through the First Aid Team). _____ (Time)
2. Notify the EP Supervisor (or EOM *EP Advisor* when in an Alert or higher classification) to contact offsite Emergency Management of the event. _____ (Time)
3. Refer to AP-617 to determine whether a four (4) hour NRC event notification under "Off-site Notification has or will be made" is required.

Notification Completed: _____ _____
(signature) (date/time)

Form PEP-310-1-0

UNUSUAL EVENT NOTIFICATIONS CHECKLIST

Notification of Site Personnel - Standby Status **Completed ☐**

CAUTION

During a security event, it may be advisable **NOT** to sound an alarm or make a PA announcement.

1. Make/have the Control Room make the following announcement over the public address system:

   A. "Attention all personnel; attention all personnel: An Unusual Event has been declared due to (*brief description of initiating event*). All members of the ERO standby for further instructions. All other personnel continue with your present duties."

   B. If there is a localized emergency (for example, high radiation, fire), announce its type and location and instruct personnel to stand clear of this area.

2. Repeat the PA Message(s).

Notification of the ERO - Standby Status **Completed ☐**

1. Notify or direct notification of the ERO per Section 3.3 using Attachments 6-8 as appropriate.

Notification of State and Local Agencies **Completed ☐**

1. Notify or direct notification of the State and local authorities within 15 minutes of the event classification by communicating an initial Emergency Notification Form (Attachment 9) per Section 3.4 using Attachment 11 or 12 as appropriate.

Notification of the NRC **Completed ☐**

1. As soon as possible but within 60 minutes of the event classification, inform the NRC using the ENS or a commercial telephone per Section 3.5.

Notification Completed: _____ _____
(signature) (date/time)

ALERT NOTIFICATIONS CHECKLIST

Notification of Site Personnel - Dismissal of Personnel **Completed ☐**

CAUTION

During a security event, it may be advisable **NOT** to sound an alarm or make a PA announcement.

1. Sound/have the Control Room sound the Site Evacuation Alarm for 15 seconds and make the following announcement over the public address system:

   A. "Attention all personnel; attention all personnel: An Alert has been declared due to (*brief description of initiating event*). All members of the ERO report to your designated emergency response facility. All other HNP personnel exit the Protected Area and report to the Admin Building 2nd floor conference room area, and await instructions. All visitors, all nonessential contractor personnel, all declared pregnant females and all handicapped personnel please leave the site at this time."

   B. If there is a localized emergency (for example, high radiation, fire), announce its type and location and instruct personnel to stand clear of this area.

   C. If there is a potential for an airborne radiological release, consider announcing that there will be no eating, drinking, or smoking until further notice.

2. Repeat the PA Message(s).

Notification of the ERO - Facility Activation **Completed ☐**

1. Notify or direct notification of the ERO per Section 3.3 using Attachments 6-8 as appropriate.

Notification of State and Local Agencies **Completed ☐**

1. Notify or direct notification of the State and local authorities within 15 minutes of the event classification by communicating an initial Emergency Notification Form (Attachment 9) per Section 3.4 using Attachment 11 or 12 as appropriate.

Notification of the NRC **Completed ☐**

1. As soon as possible but within 60 minutes of the event classification, inform the NRC using the ENS or a commercial telephone.

Action Verification **Completed ☐**

1. Have security verify public access areas have been evacuated.

Notification Completed: _____ _____
(signature) (date/time)

SITE AREA EMERGENCY NOTIFICATIONS CHECKLIST

Notification of Site Personnel - Protected Area Evacuation **Completed ☐**

CAUTION

During a security event, it may be advisable **NOT** to sound an alarm or make a PA announcement.

Consider radiological conditions when preparing to evacuate personnel. If high dose rates will be encountered it may be better to shelter non-essential personnel onsite.

1. Sound/have the Control Room sound the Site Evacuation Alarm for 15 seconds and make the following announcement over the public address system:

   A. If entering from no event or an Unusual Event:
   "Attention all personnel; attention all personnel: A Site Area Emergency has been declared due to (*brief description of event*). All ERO members report to your designated emergency response facility. All other personnel exit the Protected Area and leave the site. Security, initiate Accountability."

   If upgrading from an Alert:
   "Attention all personnel, Attention all personnel: A Site Area Emergency has been declared due to (*brief description of event*). All personnel who are not part of the ERO exit the Protected Area and leave the site. Security, initiate Accountability."

   B. If there is a localized emergency (for example, high radiation, fire), announce its type and location and instruct personnel to stand clear of this area.

   C. If there is a potential for an airborne radiological releas e, consider announcing that there will be no eating, drinking, or smoking until further notice.

2. Repeat the PA Message(s).

Notification of the ERO - Facility Activation **Completed ☐**

1. If not previously performed, notify or direct notification of the ERO per Section 3.3 using Attachments 6-8 as appropriate.

Notification of State and Local Agencies **Completed ☐**

1. Notify or direct notification of the State and local authorities within 15 minutes of the event classification by communicating an initial Emergency Notification Form (Attachment 9) per Section 3.4 using Attachment 11 or 12 as appropriate.

Notification of the NRC **Completed ☐**

1. As soon as possible but within 60 minutes of the event classification, inform the NRC using the ENS or a commercial telephone.

SITE AREA EMERGENCY NOTIFICATIONS CHECKLIST

Verify Accountability	**Completed ☐**
1. Security should report within 30 minutes of declaration of a Site Area Emergency that accountability is complete and provide the names of missing persons, if any. Log the time that Accountability was completed.	
2. If not previously performed, direct Security verify public access areas have been evacuated.	

Notification Completed: _____ _____
(signature) (date/time)

GENERAL EMERGENCY NOTIFICATIONS CHECKLIST

Notification of Site Personnel - Protected Area Evacuation **Completed ☐**

CAUTION

During a security event, it may be advisable **NOT** to sound an alarm or make a PA announcement.

Consider radiological conditions when preparing to evacuate personnel. If high dose rates will be encountered it may be better to shelter non-essential personnel onsite.

1. Sound/have the Control Room sound the Site Evacuation Alarm for 15 seconds and make the following announcement over the public address system:

   A. If entering into a GE from an Alert or lower:
   "Attention all personnel; attention all personnel: A General Emergency has been declared due to (*brief description of event*). All members of the ERO report to your designated emergency response facility. All other personnel exit the Protected Area and leave the site. Security, initiate Accountability. There will be no eating, drinking, or smoking until further notice."

   If upgrading from an Site Area Emergency:
   "Attention all personnel, Attention all personnel: A General Emergency has been declared due to (*brief description of event*). There will be no eating, drinking, or smoking until further notice."

   B. If there is a localized emergency (for example, high radiation, fire), announce its type and location and instruct personnel to stand clear of this area.

2. Repeat the PA Message(s).

Notification of the ERO - Facility Activation **Completed ☐**

1. If not previously performed, notify or direct notification of the ERO per Section 3.3 using Attachments 6-8 as appropriate.

Notification of State and Local Agencies **Completed ☐**

NOTE: Protective Action Recommendations issued in accordance with PEP-110 are mandatory for a General Emergency Classification.

1. Notify or direct notification of the State and local authorities within 15 minutes of the event classification by communicating an initial Emergency Notification Form (Attachment 9) per Section 3.4 using Attachment 11 or 12 as appropriate.

Notification of the NRC **Completed ☐**

1. As soon as possible but within 60 minutes of the event classification, inform the NRC using the ENS or a commercial telephone.

GENERAL EMERGENCY NOTIFICATIONS CHECKLIST

Verify Accountability	**Completed ☐**
1. If not previously done, Security should report within 30 minutes of declaration of t he a General Emergency that accountability is complete and provide the names of missing persons, if any. Log the time that Accountability was completed.	
2. Verify Security has performed the actions for Exclusion Area Evacuation per SP-15.	

Notifications Completed: _____ _____
(signature) (date/time)

EMERGENCY RESPONSE ORGANIZATION NOTIFICATION - DIALOGIC SYSTEM ACTIVATION

Verification Information:

Obtain and record the password and MCR Generic ID code from the Emergency Communicator's desk in the MCR or Radwaste Control Room.

Password: _____ **ID Code:** _____

Scenario Determination:

Select the appropriate scenario number from the options below:

Off Normal Hours-1600 to 0730, Monday Thru Friday, Weekends and Holidays

- ☐ UNUSUAL EVENT - No Facility Activation (*) 20
- ☐ UNUSUAL EVENT - Pre-staffing Facilities 21
- ☐ ALERT 22
- ☐ SITE EMERGENCY 23
- ☐ GENERAL EMERGENCY 24

Normal Working Hours, 0730 to 1600, Monday Through Friday

- ☐ UNUSUAL EVENT - No Facility Activation (*) 30
- ☐ UNUSUAL EVENT - Pre-staffing Facilities 31
- ☐ ALERT 32
- ☐ SITE EMERGENCY 33
- ☐ GENERAL EMERGENCY 34

(*) The ERM, SEC-TSC, EOM (EP Advisor), Company Spokesperson and resident NRC Inspector will be notified.

Connecting to the System:

NOTE: If the System is not operable, proceed directly to Attachment 7.

NOTE: The first number of the password must be entered as the System starts saying "Hello". If you wait too long the system will respond, "Hello, there is no activity at this time, goodbye" and hang up. If this happens, repeat the above step.

1. Dial 2452 on a plant extension or dial 362-2452 if using a Southern Bell line.

   System Response: "Hello."

2. Enter the four (4) digit password followed by a "#" key.

   System Response: "Enter the scenario you wish to work with."

3. Enter the appropriate scenario number (checked above) followed by a "#" key.

   System Response: "You entered XX. Is that correct? Please press 9 for yes, 6 for no."

EMERGENCY RESPONSE ORGANIZATION NOTIFICATION - DIALOGIC SYSTEM ACTIVATION

Connecting to the System (cont.):

4. Enter 9 if the scenario you entered was correct, or 6 if the scenario entered was incorrect (if a 6 was entered, hang up and repeat the above steps).

   System Response: "The selected scenario has been completed. Would you want to queue it? Please press 9 for yes, 6 for no."

5. Enter 9.

   System Response: "You will queue scenario XX as a (Test, Drill or Emergency based on the scenario selected). Are you sure this is what you want to do? Please press 9 for yes, 6 for no."

6. Enter 9.

   System Response: ""Press 1 to stop scenario monitor or press 2 to speak of the status. The selected scenario is active, goodbye."

7. Hang up.

This completes the scenario activation sequence. The System should now start the process of contacting the appropriate personnel for the scenario requested.

System Activation Verification:

NOTE: The System will soon dial telephones in the MCR (362-7992 or 362-7997), and telephones in the Radwaste Control Room (362-2398 or 362-2534).

1. The System should perform the following:
   - Request for social security number.
   - Provide a brief description of the event (Emergency Classification).
   - Ask if they are Fitness for Duty.
   - Request an estimated time of arrival.
   - Make a position filled statement.
2. Respond to its request using the generic ID code/social security number.

NOTE: If the computer fails to communicate the above, perform ERO notification per Attachment 7.

EMERGENCY RESPONSE ORGANIZATION NOTIFICATION - DIALOGIC SYSTEM ACTIVATION

Response Verification:

NOTE: Periodic faxes will be sent to the MCR which provide a report listing personnel who have been contacted, their ERO position, ETA and FFD status.

1. Review this report against the minimum staffing requirements below and determine if any positions have not been filled.

ERO Position	# Called In
☐ Administrative & Logistics Manager	1
☐ Chemistry Coordinator	1
☐ Chemistry Team	1
☐ Communications Director	1
☐ Communications Manager	1
☐ Company Spokesperson	1
☐ Company Technical Spokesperson	1
☐ Damage Control Coordinator	1
☐ Dose Projection Team Leader	1
☐ Electrical/I&C Maintenance	3
☐ Emergency Communicator - State/County	1
☐ Emergency Offsite Manager (EP Advisor)	1
☐ Emergency Repair Director	1
☐ Emergency Response Manager	1
☐ Environmental Monitoring Team	4
☐ JIC Director	1
☐ Mechanical Maintenance	2
☐ News Coordinator	1
☐ Plant Operations Director	1
☐ Radiological Control Coordinator	1
☐ Radiological Control Director	1
☐ Radiological Control Manager	1
☐ RP Pool Personnel (OSC Teams-6, Facility Techs-2)	8
☐ Security Director	1
☐ Site Emergency Coordinator-TSC	1
☐ Technical Analysis Director	1
☐ Technical Analysis Manager	1
☐ TSC AAT - Core Performance	1
☐ TSC AAT - Electrical/I&C	1
☐ TSC AAT - Mechanical	1

2. If there are any unfilled positions, refer to the EPL-001 and contact personnel to directly fill the open position.

3. Inform the SEC-CR of the results of the System activation, and forward all paperwork to Emergency Preparedness.

Notification Completed: _____ _____
(signature) (date/time)

EMERGENCY RESPONSE ORGANIZATION NOTIFICATION - PAGER SYSTEM ACTIVATION

NOTE: When pre-staffing the emergency response facilities is NOT desired, perform Unusual Event ERO notifications manually per Attachment 8.

Password Determination:

Obtain and record the 6 digit password from the "Group Page Password" envelope from the Emergency Communicator's desk in the MCR or Radwaste Control Room.

Password: _____ _____ _____ _____ _____ _____

Pager Code Determination:

Select the appropriate classification level from the options below:

☐ Unusual Event (pre-staffing of the facilities) ..... **3627992*1*1##**
☐ Alert ..... **3627992*2*1##**
☐ Site Emergency ..... **3627992*3*1##**
☐ General Emergency ..... **3627992*4*1##**

Pager Code: MCR call back number, Classification Level, Response Required. ## completes the call.

Activating the Group Page:

1. From an outside line, dial 800-538-5388.

   System Response: "Please enter the pager I.D. number."

2. Enter the six (6) digit password from above.

   System Response: "Please enter your numeric message after the tone."

3. After the three (3) beeps, enter the pager code determined above.

4. Hang up.

5. Record the time group pager activation was completed: _____

Contact Personnel Without Pagers (during off-normal working hours):

Contact on-shift Maintenance and E&RC and provide them the following instructions:

1. "Maintenance; call in, as a minimum, 3 additional Electrical/I&C and 2 additional Mechanical personnel."

2. "E&RC; call in, as a minimum, 8 additional OSC RP Pool personnel, 4 additional EnMon Team personnel and 1 additional Chemistry Technician."

EMERGENCY RESPONSE ORGANIZATION NOTIFICATION - PAGER SYSTEM ACTIVATION

Notification Call-Backs:

1. Attempt to fill each of the ERO positions listed in the table below as follows:
   a. Identify the ERO position of the caller.
   b. Ask if they are fit for duty.

NOTE: If the individual is not fit for duty, tell them a response is not required but to stay near their phone.

   c. Record the responder's name and time of contact.
   d. Request and record an ETA.
   e. Instruct them to initiate call-tree notifications if applicable and report to their emergency facility.

NOTE: If an initial caller's ETA is >60 minutes, direct the subsequent caller to report to their emergency facility provided their ETA is quicker.

2. Once the ERO position has been filled, inform callers of the event and instruct them to stay near their phone.

ERO Position	Person Responding/ETA (min)	Time
Administrative & Logistics Manager		
Chemistry Coordinator		
Communications Director		
Communications Manager		
Company Spokesperson		
Company Technical Spokesperson		
Damage Control Coordinator		
Dose Projection Team Leader		
Emerg Communicator-State/County		
Emerg Offsite Manager (EP Advisor)		
Emergency Repair Director		
Emergency Response Manager		
JIC Director		
News Coordinator		
Plant Operations Director		

EMERGENCY RESPONSE ORGANIZATION NOTIFICATION - PAGER SYSTEM ACTIVATION

Notification Call-Backs (cont.):

Radiological Control Coordinator	_____	_____
Radiological Control Director	_____	_____
Radiological Control Manager	_____	_____
Security Director	_____	_____
Site Emergency Coordinator-TSC	_____	_____
Technical Analysis Director	_____	_____
Technical Analysis Manager	_____	_____
TSC AAT - Core Performance	_____	_____
TSC AAT - Electrical	_____	_____
TSC AAT - Mechanical	_____	_____

3. When the NRC Resident Inspector calls in inform them of the event.
4. Attempt to manually call personnel to respond to each unfilled position (phone numbers provided in EPL-001).
5. Inform the SEC-CR of the results of the group page, and forward all paperwork to Emergency Preparedness.

Notification Completed: _____ _____
(signature) (date/time)

EMERGENCY RESPONSE ORGANIZATION NOTIFICATION - MANUAL CALL-OUT

NOTE: EPL-001, Emergency Phone List, contains home, work, and pager numbers for personnel filling ERO Positions.

Unusual Event Notifications Without Pre-Staffing the Facilities:

NOTE: The SEC may elect to notify personnel in addition to those normally associated each emergency classification.

1. Contact and notify one person per position, using individual pagers, work or home phone numbers.

ERO Position	Person Contacted	Time
Site Emergency Coordinator-TSC	_____	_____
Emergency Response Manager	_____	_____
Emerg Offsite Manager (EP Advisor)	_____	_____
Company Spokesperson	_____	_____

2. Contact and inform the NRC Resident Inspector of the event.

Event Notifications Requiring Facility Response:

CAUTION

Emergency notification messages shall be given only to the specified individuals and not to their spouse, children, baby-sitter, and so forth.

OR

If the caller encounters an answering machine leave a message to call the plant with a phone number, but leave no emergency information.

1. For each of the ERO positions listed in the table below:
   a. Record the responder's name and time of contact.
   b. Ask if they are fit for duty.

NOTE: If the individual is not fit for duty, tell them a response is not required but to stay near their phone.

   c. Request and record an ETA.
   d. Instruct them to initiate call-tree notifications if applicable and report to their emergency facility.

NOTE: If any individual's ETA is >60 minutes, attempt to contact an additional ERO member who can respond sooner to the facility.

EMERGENCY RESPONSE ORGANIZATION NOTIFICATION - MANUAL CALL-OUT

Event Notifications Requiring Facility Response (cont.):

ERO Position	Person Contacted/ETA (min)	Time
Plant Operations Director		
Emergency Repair Director		
Damage Control Coordinator		
Radiological Control Coordinator		
Chemistry Coordinator		
Site Emergency Coordinator-TSC		
Technical Analysis Director		
TSC AAT - Core Performance		
TSC AAT - Mechanical		
TSC AAT - Electrical/I&C		
Radiological Control Director		
Communications Director		
Security Director		
Emergency Response Manager		
Emerg Offsite Manager (EP Advisor)		
Radiological Control Manager		
Dose Projection Team Leader		
Communications Manager		
News Coordinator		
EC - State/County		
Technical Analysis Manager		
Administrative & Logistics Manager		
Company Spokesperson		
JIC Director		
Company Technical Spokesperson		

2. Contact and inform the NRC Resident Inspector of the event.

EMERGENCY RESPONSE ORGANIZATION NOTIFICATION - MANUAL CALL-OUT

Initiate the Contact of Pool Personnel (off-normal work hours):

Contact on-shift Maintenance and E&RC and provide them the following instructions:

1. "Maintenance; call in, as a minimum, 3 additional Electrical/I&C and 2 additional Mechanical personnel."
2. "E&RC; call in, as a minimum, 8 additional OSC RP Pool personnel, 4 additional EnMon Team personnel and 1 additional Chemistry Technician."

Inform the SEC-CR of the results of the manual call-out, and forward all paperwork to Emergency Preparedness.

Notification Completed: _____ _____
(signature) (date/time)

STATE/COUNTY EMERGENCY NOTIFICATION FORM SAMPLE

EMERGENCY NOTIFICATION

Received by: _____
Time: _____ Date: _____
Transmitted by: _____

1. [A] THIS IS A DRILL [B] ACTUAL EMERGENCY [ ] INITIAL [ ] FOLLOW-UP* MESSAGE # _____
2. SITE: _____ UNIT: _____ REPORTED BY: _____
3. TRANSMITTAL TIME/DATE: _____ (Eastern) __/__/__ mm dd yy CONFIRMATION PHONE NUMBER: _____
4. AUTHENTICATION (if required): _____ (Number) _____ (Codeword)

5. EMERGENCY CLASSIFICATION: [A] NOTIFICATION OF UNUSUAL EVENT [B] ALERT [C] SITE AREA EMERGENCY [D] GENERAL EMERGENCY

6. [A] Emergency Declaration at: [B] Termination at: TIME/DATE: _____ (Eastern) __/__/__ mm dd yy (If B, go to Item 16)
7. EMERGENCY DESCRIPTION/REMARKS: _____

8. PLANT CONDITION: [A] IMPROVING [B] STABLE [C] DEGRADING
9. REACTOR STATUS: [A] SHUTDOWN: TIME/DATE: _____ (Eastern) __/__/__ mm dd yy [B] ____% POWER
10. EMERGENCY RELEASE(S): [A] NONE (GO TO ITEM 14) [B] POTENTIAL (GO TO ITEM 14) [C] IS OCCURING [D] HAS OCCURRED
**11. TYPE OF RELEASE: [ ] ELEVATED [ ] GROUND LEVEL
[A] AIRBORNE Started: ____ (Time Eastern) __/__/__ (Date) Stopped: _____ (Time Eastern) __/__/__ (Date)
[B] LIQUID Started: ____ (Time Eastern) __/__/__ (Date) Stopped: _____ (Time Eastern) __/__/__ (Date)
**12. RELEASE MAGNITUDE: [ ] CURIES PER SEC. [ ] CURIES NORMAL OPERATING LIMITS: [ ] BELOW [ ] ABOVE
[A] NOBLE GASES_____ [B] IODINES_____
[C] PARTICULATES_____ [D] OTHER_____
**13. ESTIMATE OF PROJECTED OFFSITE DOSE: [ ] NEW [ ] UNCHANGED PROJECTION TIME:_____(Eastern)

	TEDE mrem	Thyroid CDE mrem
SITE BOUNDARY		
2 MILES		
5 MILES		
10 MILES		

ESTIMATED DURATION:_____HRS.

**14. METEOROLOGICAL DATA:
[A] WIND DIRECTION (from)_____° [B] SPEED (mph)_____ [C] STABILITY CLASS_____ [D] PRECIPITATION (type)_____

15. RECOMMENDED PROTECTIVE ACTIONS:
[A] NO RECOMMENDED PROTECTIVE ACTIONS
[B] EVACUATE_____
[C] SHELTER IN-PLACE_____
[D] OTHER_____

16. APPROVED BY: _____ (Name) _____ (Title) TIME/DATE:_____ (Eastern) __/__/__ mm dd yy

* If items 8-14 have not changed, only Items 1-7 and 15-16 are required to be completed.
** Information may not be available on initial notifications.

EM-78 (R2-94)

STATE/COUNTY NOTIFICATION FORM INSTRUCTIONS

Using ERFIS/RTIN to Perform Notifications:

1. Select Turn-on-Code(TOC) **EP** "EMERGENCY PREPAREDNESS FUNCTION MENU" from the ERFIS Main Menu.

2. Select TOC **LOGIN** "LOG INTO NETWORK DATABASE" to sign on to the system.

3. Select your ERO position from the Position Menu, type in your name, and select login.

4. Select TOC **EVENT** "DECLARE EVENT"(if an event has not previously been declared on RTIN) and select O.K.

5. Select TOC **EFORM** "EMERGENCY NOTIFICATION FORM" from the menu.

Form Completion Guidelines:

NO.	INSTRUCTION
All	Marking of a block on the notification form should be done by diagonally shading ½ of the block when filling out manually (or placing a check in the block when using RTIN).
1.	Mark the form as **'A' DRILL** or **'B' ACTUAL EMERGENCY**. Mark **INITIAL** if this is the first message for the declared emergency classification level (either upgrade or downgrade). Mark **FOLLOW-UP** if this is not the first message for the declared emergency classification level. Assign a numerical message number. • The first notification is message number 1. • Each subsequent message is numbered sequentially. • The message number does not begin again at 1 for any reason during the course of the declared event. • Numbering of forms will be done automatically in ERFIS if you select "ADD".
2.	Record the name of the person who will be reading the message to the State & County personnel in the **REPORTED BY** space.

STATE/COUNTY NOTIFICATION FORM INSTRUCTIONS

3. **TRANSMITTAL TIME/DATE** must be filled out just prior to transmittal. It is not filled out at this time. This will be done automatically in ERFIS.

   Record a number in the **CONFIRMATION PHONE NO.** that off-site agencies could use for verification that this message is authentic. Use of a direct Bell Line phone number is recommended.

4. **AUTHENTICATION** is not filled out until after the message has been transmitted.

5. Mark the form with the applicable **EMERGENCY CLASSIFICATION LEVEL**.

   - **'A' NOTIFICATION OF UNUSUAL EVENT**
   - **'B' ALERT**
   - **'C' SITE AREA EMERGENCY**
   - **'D' GENERAL EMERGENCY**

   If the event has been upgraded or downgraded prior to completion of the off-site notification form, do not transmit old information. Complete a new notification form to reflect current conditions.

   If the event has been terminated prior to completion of the off-site notification form, mark the highest emergency classification level that existed.

   For a termination message, leave Item 5 blank.

   For Follow-up messages, indicate the same classification as the previous message.

6. Mark the form with **'A' EMERGENCY DECLARATION AT** unless this is a termination message.

   Mark the form with **'B' TERMINATION AT** for a termination message.

   Indicate the time and date that the emergency classification was declared or terminated.

   If the event has been terminated prior to completion of the off-site notification form, mark both **'A'** and **'B'** and indicate both the start and stop time of the event.

7. Record the 'EAL Reference Number _____' and a short narrative of the event, using layman's terms, in the **EMERGENCY DESCRIPTION REMARKS**. Any of the following items should also be included:

STATE/COUNTY NOTIFICATION FORM INSTRUCTIONS

- Estimate of any surface radioactive contamination in plant, on site or off site.
- HNP emergency response actions underway (for example, evacuation of site personnel).
- Any requests for assistance (for example, Rescue, Fire or Sheriff).

If the event is being terminated describe the bases for the termination.

If the event has been downgraded prior to completion of the previous off-site notification form, then record:

- The start and stop times that the higher classification level existed.
- The EAL for the higher classification level.
- The mitigating conditions that caused the classification level to be downgraded.

If the event has been terminated prior to completion of the previous off-site notification form, then record reason for the event and the reason for the termination.

8. Mark **PLANT CONDITION** as appropriate.

Termination messages do not require Item 8 to be filled in.

- **'A' IMPROVING**
- **'B' STABLE**
- **'C' DEGRADING**

9. Mark **REACTOR STATUS** as follows:

Termination messages do not require Item 9 to be filled in.

- Mark **'A' SHUTDOWN** if the reactor is shutdown and indicate the time and date, if applicable.

  Enter "N/A" for the time and date of shutdown if the reactor is at power.

- Mark **'B' POWER** if the reactor is at power and record the current reactor power level.

  Enter "N/A" for the power level if the reactor is shutdown.

STATE/COUNTY NOTIFICATION FORM INSTRUCTIONS

10. Mark **EMERGENCY RELEASE(S)** as appropriate:

    NOTE: Emergency Release is defined as ANY radioactive release which is a result of, or associated with, the event.

    - Mark **'A' NONE** if no Emergency Release is occurring or has occurred.
    - Mark **'B' POTENTIAL** if no release is occurring but based on plant data a trend may predict when the final barrier will be breached and there are no systems capable of mitigating the trend.
    - Mark **'C' IS OCCURRING** if an Emergency Release is occurring.
    - Mark **'D' HAS OCCURRED** for Emergency Releases which have occurred but are now terminated.

11. Mark **TYPE OF RELEASES** as **'B' GROUND LEVEL** for all Emergency Releases.

    Item 11 may be skipped if either 'none' or 'potential' were selected for emergency release.

    For initial notifications, the remaining information for Item 11 may not be available. If this is the case, leave it blank.

    - Mark **'A' AIRBORNE** for an airborne release.

      Indicate the time and date for the release start and stop.

      If the release is in progress at the time of this notification, enter "N/A" for stop time.

    - Mark **'B' LIQUID** for an liquid release.

      Indicate the time and date for the release start and stop.

      If the release is in progress at the time of this notification, enter "N/A" for stop time.

12. Mark **RELEASE MAGNITUDE** as appropriate:

    This information may not be available for initial notifications.

    Item 12 may be skipped if either 'none' or 'potential' were selected for emergency release.

    - Mark **'A' CURIES/SEC**

STATE/COUNTY NOTIFICATION FORM INSTRUCTIONS

- Mark **'B' CURIES**

Mark **NORMAL OPER. LIMITS** based on whether the release is below or above Technical Specification limits.

- Mark **'C' BELOW**
- Mark **'D' ABOVE**

Mark **'A' NOBLE GASES** and record magnitude in Curies or Curies/sec, if applicable.

Mark **'B' IODINES** and record magnitude in Curies or Curies/sec, if applicable.

Mark **'C' PARTICULATES** and record magnitude in Curies or Curies/sec, if applicable.

Mark **'D' OTHER** as N/A, not applicable to the Harris Plant.

13. Mark **ESTIMATE OF PROJECTED OFF-SITE DOSE** as appropriate:

This information may not be available for initial notifications.

Item 13 may be skipped if no emergency release has occurred.

- Mark **'A' NEW** if this is the first dose projection or if the release/release rate has changed significantly (approximately 15%).
- Mark **'B' UNCHANGED** if no new projection is available.

Enter **PROJECTION TIME** with the time the dose projection data was obtained.

Enter **ESTIMATED DURATION** with the time, in hours, of a potential or on going release. Use a default value of 1 hour only if better estimated duration of release is not yet available.

Enter the **TEDE** and **THYROID CDE** doses in mRem. DO NOT change the units on the form.

14. Enter **METEOROLOGICAL DATA** as appropriate:

This information may not be available for initial notifications.

- Mark **'A' WIND DIRECTION** and enter the direction in degrees from.
- Mark **'B' SPEED** and enter the wind speed in MPH.

STATE/COUNTY NOTIFICATION FORM INSTRUCTIONS

- Mark **'C' STABILITY CLASS** and enter the appropriate stability as 'A' - 'G'.
- Mark **'D' PRECIPITATION** and enter 'RAIN' or 'SNOW' or 'SLEET' if any precipitation has occurred within the last 15 minutes.

15. Mark **RECOMMENDED PROTECTIVE ACTIONS** as appropriate per PEP-110.

- Mark **'A' NO RECOMMENDED PROTECTIVE ACTIONS** Unless a General Emergency has been declared.
- Mark **'B' EVACUATE** if a General Emergency has been declared and enter each of the subzones for which this recommendation applies (for example, A,B,C,D, and so forth).
- For **'C' SHELTER IN-PLACE** if a General Emergency has been declared, enter the remaining subzones which were not entered for evacuate.
- **'D' OTHER** is not applicable to HNP. Areas beyond 10 miles will be considered only on an ad-hoc basis and will be directly communicated with the offsite agencies through the ERM.

16. **APPROVED BY** Obtain approval from the Site Emergency Coordinator or Emergency Response Manager prior to transmittal of the notification to the State and Counties.

- Obtain signature, title, time and date on a hard copy prior to transmittal of the notification to the State and Counties.
- Enter name, title, time and date on ERFIS following approval of the hard copy prior to transmittal of the notification to the State and Counties.

NOTE: Transmittal Time/Date and authentication in Items 3 and 4 will be filled in following approval of the form. Any other changes made to the information after this signature must be initialed by the SEC or ERM as applicable.

STATE/COUNTY NOTIFICATION CHECKLIST-FAXED METHOD

NOTE: If the Selective Signaling phone is inoperable, use the normal telephone system. If both phone systems fail use the UHF State frequency radio in the TSC or EOF (State and Wake WP do not have a radio).

Contacting the Offsite Authorities:

1. Obtain the verification code words from the following storage locations:
   a. Emergency Communicator desk in the Main Control Room (MCR).
   b. Key locker at the Auxiliary Control Panel (ACP).
   c. EOF supply cabinet.

NOTE: If you do not hear a tone, a conference network may already be established.

2. Using the Selective Signaling System, dial '10' and listen for a tone. At the tone, perform one of the following:
   ☐ Dial 22 to contact the Warning Points (common for MCR).
   ☐ Dial 33 to contact the State and County EOCs (common for EOF).
   ☐ Dial 44 to contact all Warning Points, and EOCs (during EOC activation, as requested).
3. Wait for the initial response and say: "This is the Harris Nuclear Plant, stand by."
4. After the responses cease, say: "This is Harris Nuclear Plant, answer to roll call,"
   ☐ "State" (Pause for response).
   ☐ "Chatham County" (Pause for response).
   ☐ "Harnett County" (Pause for response).
   ☐ "Lee County" (Pause for response).
   ☐ "Wake County" (Pause for response).
5. If one or more organizations did not respond to roll call:
   a. Let the responders know that you are going to redial.
   b. Re-enter the appropriate 2 digit code from above.
   c. Repeat the roll call for the missing locations.
6. If a location(s) still does not respond, request an assistant to contact the missing organization(s) by phone (see EPL-001) and read the message to them.
7. Continue on with the locations who are on the line.

STATE/COUNTY NOTIFICATION CHECKLIST-FAXED METHOD

Communicating the Event:

1. Confirm receipt and understanding of Notification Form saying the following:
   a. "This is the Harris Nuclear Plant, Emergency Notification (*state the message number*) was sent via fax."
   b. "A (*state the classification level*) "
      - For initial notifications: "has been declared."
      - For follow-up notifications: "continues to be in effect."
2. Record the current time and date (24 hour clock) ....._____/_____
3. Say, "Please confirm that a legible copy of the notification form has been received."
4. If any one is having difficulty reading the faxed form, read it over the line.
5. Print and provide your name on line 2 of the form for "Reported By:"
6. Request the State supply an authentication number and respond with the corresponding word from the list of verification code words. Record on form (line 4).
7. Ask if there are any questions; if necessary, correct any errors.

Logging Responders:

1. Say "respond to roll call with your name.", call roll and record the information:
   "State"..... Name: _____
   "Chatham County"..... Name: _____
   "Harnett County"..... Name: _____
   "Lee County" ..... Name: _____
   "Wake County" ..... Name: _____
2. When completed, say: "this is the end of the emergency notification. You may leave the network. This is the Harris Nuclear Plant, out."

When notification is performed from the MCR, fax the form to the TSC and the EOF. Notify the Help Desk to report equipment problems, see EPL-001.

Notification Completed: _____ _____
(signature) (date/time)

Form PEP-310-11-1

STATE/COUNTY NOTIFICATION CHECKLIST - MANUAL METHOD

NOTE: If the Selective Signaling phone is inoperable, use the normal telephone system or the UHF State frequency radio in the TSC or EOF (insure that the Help Desk is notified, see EPL-001).

Contacting the Offsite Authorities:

1. Obtain the verification code words from the following storage locations:
   a. Emergency Communicator desk in the Main Control Room (MCR).
   b. Key locker at the Auxiliary Control Panel (ACP).
   c. EOF supply cabinet.

NOTE: If you do not hear a tone, a conference network may already be established.

2. Using the Selective Signaling System, dial '10' and listen for a tone. At the tone, perform one of the following:
   ☐ Dial 22 to contact the Warning Points (common for MCR).
   ☐ Dial 33 if the State and County EOCs (common for EOF).
   ☐ Dial 44 to contact all Warning Points, and EOCs (abnormal situation).
3. Wait for the initial response and say: "This is the Harris Nuclear Plant, stand by."
4. After the responses cease, say: "This is Harris Nuclear Plant, answer to roll call,"
   ☐ "State" (*pause for response*).
   ☐ "Wake County" (*pause for response*).
   ☐ "Chatham County" (*pause for response*).
   ☐ "Harnett County" (*pause for response*).
   ☐ "Lee County" (*pause for response*).
5. If one or more organizations did not respond to roll call:
   a. Let the responders know that you are going to redial.
   b. Re-enter the appropriate 2 digit code from above.
   c. Repeat the roll call for the missing locations.
6. If a location(s) still does not respond, request an assistant to contact the missing organization(s) by phone (see EPL-001) and read the message to them.
7. Continue on with the locations who are on the line.

STATE/COUNTY NOTIFICATION CHECKLIST - MANUAL METHOD

Communicating the Event:

1. Say, "This is the Harris Nuclear Plant, A (*state the classification level*) "
   - For initial notifications: "has been declared."
   - For follow-up notifications: "continues to be in effect."
2. Record the current time and date (24 hour clock) on Line 3 of the notification form.
3. Say, "record the following information on an Emergency Notification Form." (*pause to allow the locations to retrieve a form*)
4. Read the form to the responding locations as follows:
   a. Identify each line by number before communicating the content.
   b. Spell difficult words.
5. Print and provide your name on line 2 of the form for "Reported By:"
6. Request that the State supply an authentication number and respond with the corresponding word from the list of verification code words. Record this information on the form (line 4).
7. After the notification has been completed, ask if there are any questions; if necessary, correct any errors.

Logging Responders:

1. Say "respond to roll call with your name.", call roll and record the information:

   "State"..... Name: _____

   "Chatham County"..... Name: _____

   "Harnett County"..... Name: _____

   "Lee County" ..... Name: _____

   "Wake County" ..... Name: _____

2. When completed, say: "This is the end of the emergency notification. You may leave the network. This is the Harris Nuclear Plant, out."

When notification is performed from the MCR, fax the form to the TSC and the EOF.

Notification Completed: _____ _____
(signature) (date/time)

Form PEP-310-12-1

INPO/ANI NOTIFICATION FORM

☐ **Institute of Nuclear Power Operations (INPO)**

☐ **American Nuclear Insurers (ANI)**

1. "This is _____ from Carolina Power & Light at the Harris Nuclear Plant,
(name of caller)

telephone number 919-362-_____, concerning Unit One."
(call back number)

2. ☐ This is a drill. ☐ This is an actual emergency.

3. Emergency Classification:

☐ Alert ☐ Site Area Emergency ☐ General Emergency

Basis:_____

_____

4. Current Plant Conditions/Additional Information _____

_____

_____

_____

_____

_____

5. Notification Authorized: _____ _____
(ERM signature) (date/time)

6. Name of person notified: (INPO)_____

(ANI)_____

7. Notification Completed: _____ _____
(signature) (date/time)

PLANT PARAMETER INFORMATION FORM

Date: _____	Time: _____

FUEL STATUS:	
1. GFFD	CPM
2. RCS Activity Sample	_____(time) µci/ml
3. RCS I-131 DE Sample	_____(time) µci/ml
4. Core Exit Temp	°F

REACTOR COOLANT SYSTEM (RCS) STATUS		
1. Reactor Power (PR)		%
2. Reactor Power (IR)		(SUR)____DPM Amps
3. Reactor Power (SR)		(SUR)____DPM CPS
4. RCS Pressure		PSIG
5. PRZ Level		%
6. Average Temperature		°F
7. RCS Loop A	T_{hot}	_____°F
	T_{cold}	_____°F
	ΔT	°F
8. RCS Loop B	T_{hot}	_____°F
	T_{cold}	_____°F
	ΔT	°F
9. RCS Loop C	T_{hot}	_____°F
	T_{cold}	_____°F
	ΔT	°F
10. Subcooling		°F
11. Charging Flow		GPM
12. Letdown Flow		GPM
13. SI Flow		GPM
14. Boron Concentration (Sample)		_____(time) PPM
15. RVLIS (Dynamic/Full/Upper)		%
16. RCS Leakage		GPM
17. RCPs Operating		(A / B / C)

PROVIDE DATA FOR BLANKS

CIRCLE THE CORRECT OPTION, OR LINE THROUGH OTHERS

ABBREVIATIONS AND SYMBOLS:

INOPERABLE **I**SOLATED **NA** = NOT APPLICABLE

▲ = OFF SCALE HIGH ▼ = OFF SCALE LOW

CONTAINMENT STATUS:	
1. Phase A - All Isolated	☐ Yes ☐ No
2. CVI - All Isolated	☐ Yes ☐ No
3. Cnmt. Pressure (WR)	PSIG
4. Cnmt. Temperature	°F
5. Hydrogen Concentration	%
6. Sump Level	%
7. RWST Level	%
8. Spray Add. Tank Level	%

SECONDARY SYSTEMS STATUS		
1. Main Steam Flow:		
A. FI-474		_____MPPH
B. FI-484		_____MPPH
C. FI-494		MPPH
2. Main Feedwater Flow:		
A. FI-476		_____MPPH
B. FI-486		_____MPPH
C. FI-496		MPPH
3. Aux. Feedwater Flow:		
A. FI-2050A		_____KPPH
B. FI-2050B		_____KPPH
C. FI-2050C		KPPH
4. Steam Generator Press.:		
A. PI-476		_____PSIG
B. PI-486		_____PSIG
C. PI-496		PSIG
5. Steam Generator Levels:		
Wide Range	A	_____%
	B	_____%
	C	_____%
Narrow Range	A	_____%
	B	_____%
	C	%
6. SG Safety(s) Open		_____Number (A / B / C)
7. SG PORV(s) Open		(A / B / C)
8. Primary - Sec. Leakage		GPM

AC ELECTRICAL POWER:	
1. A-SA AC Bus Voltage	V AC
2. B-SB AC Bus Voltage	V AC

DC ELECTRICAL POWER:	
1. A-SA DC Bus Voltage	V DC
2. B-SB DC Bus Voltage	V DC

PLANT PARAMETER INFORMATION FORM

Date: _____ **Time:** _____

CSFST STATUS:	
CSF-1 Subcriticality	(Red/Magenta/Yellow/Green)
CSF-2 Core Cooling	(Red/Yellow/Green)
CSF-3 Heat Sink	(Red/Magenta/Yellow/Green)
CSF-4 RCS Integrity	(Red/Magenta/Yellow/Green)
CSF-5 Containment	(Red/Magenta/Yellow/Green)
CSF-6 RCS Inven.	(Yellow/Green)

SEISMIC CONDITIONS:	
1. "SEISMIC MON OBE EXCEEDED" Alarm	☐ Yes ☐ No
2. White Event Indicator on SMA Control Panel	☐ Yes ☐ No
3. Alarm at Triaxial Spectrum Annunciator	☐ Yes ☐ No
4. Noticeable Tremors	☐ Yes ☐ No

METEOROLOGICAL CONDITIONS:	
1. Wind Speed (lower)	MPH
2. Wind Direction (lower)	Deg
3. Stability Class	

SPENT FUEL POOL SYSTEMS:	
1. Unit 1 New Fuel Pool Level	Ft.
2. Unit 1 Spent Fuel Pool Level	Ft.

PROVIDE DATA FOR BLANKS

CIRCLE THE CORRECT OPTION, OR LINE THROUGH OTHERS

ABBREVIATIONS AND SYMBOLS:

INOPERABLE **I**SOLATED **NA** = NOT APPLICABLE

▲ = OFF SCALE HIGH ▼ = OFF SCALE LOW

RADIATION MONITORS:		
Effluent Monitors:		
1. CNMT Leak Det	REM-1LT-3502-SA	µCi/ml
2. CNMT Hi Range	REM-1CR-3589-SA	R/hr
3. CNMT Hi Range	REM-1CR-3590-SB	R/hr
4. PVS 1 WRGM Effl.	RM-21AV-3509-1SA	µCi/sec
5. PVS 1 WRGM (L/M/H)	RM-21AV-3509-1SA	µCi/ml
6. PVS 1 PIG (Gas)	REM-1AV-3509-SA	µCi/ml
7. TB Stk 3 WRGM Effl.	RM-1TV-3536-1	µCi/sec
8. TB Stk 3 WRGM (L/M/H)	RM-1TV-3536-1	µCi/ml
9. CVPETS	REM-1TV-3534	µCi/ml
Main Steam Line Monitors:		
1. MSL A	RM-1MS-3591-SB	mR/hr
2. MSL B	RM-1MS-3592-SB	mR/hr
3. MSL C	RM-1MS-3593-SB	mR/hr
Fuel Breach Monitors:		
1. VCT Area	RM-1RR-3595	mR/hr
2. CSIP A Area	RM-1RR-3599A	mR/hr
3. CSIP B Area	RM-1RR-3599B	mR/hr
4. CSIP C Area	RM-1RR-3599C	mR/hr
5. BRS Hx Area	RM-1RR-3600	mR/hr
6. Ltdn Hx Area	RM-1RR-3601	mR/hr
7. Mod Hx Area	RM-1RR-3602	mR/hr
Waste Process. Bldg. Radiation Monitors:		
1. Stack 5 WRGM Eff	RM-1WV-3546-1	µCi/sec
2. Stk 5 WRGM (L/M/H)	RM-1WV-3546-1	µCi/ml
3. Stack 5 PIG (Gas)	REM-1WV-3546	µCi/ml
4. Stack 5A WRGM Eff	RM-1WV-3547-1	µCi/sec
5. Stk 5A WRGM(L/M/H)	RM-1WV-3547-1	µCi/ml
6. Stack 5A PIG (Gas)	REM-1WV-3547	µCi/ml
7. TL&HS Disch	RM-1WL-3540	µCi/ml
8. SWTS Disch	RM-21WS-3542	µCi/ml
9. WMT Disch	REM-1WL-3541	µCi/ml
10. Turbine Bldg Drain	REM-1WL-3528	µCi/ml
Fuel Handling Bldg. Radiation Monitors:		
1. SFP South (Highest)	RM-1FR-3564A-SA	mR/hr
2. SFP South (Highest)	RM-1FR-3564B-SB	mR/hr
3. SFP South (Highest)	RM-1FR-3565A-SA	mR/hr
4. SFP South (Highest)	RM-1FR-3565B-SB	mR/hr
5. SFP North (Highest)	RM-1FR-3566A-SA	mR/hr
6. SFP North (Highest)	RM-1FR-3566B-SB	mR/hr
7. SFP North (Highest)	RM-1FR-3567A-SA	mR/hr
8. SFP North (Highest)	RM-1FR-3567B-SB	mR/hr

ESF Equipment Out Of Service: _____

_____

_____

_____

_____

Revision Summary PEP-310 Rev. 8

Section	Revision
Att. 6	Corrected ([1]) to (*) under Normal Working Hours section
	Corrected Emergency Telephone Listing to EPL-001
Att 8	Added EC - State and county to the manual callout list
Att 10 Step 7	Changed 'Record short narrative of the event' to 'Record the EAL Reference Number _____ and a short narrative of the event' to step 7
Att 11 & 12	Changed 'If the Selective Signaling phone is inoperable, use the normal telephone system or the UHF State frequency radio in the TSC or EOF (insure that the Help Desk is notified, see EPL-001).' To 'If the Selective Signaling phone is inoperable, use the normal telephone system. If both phone systems fail use the UHF State frequency radio in the TSC or EOF (State and Wake WP do not have a radio).' And added Help desk report to the end of the form.
Att 14	TL&HS Disch RM-1WL-3540 corrected µCi/sec to µCi/ml
	SWTS Disch RM-21WS-3542 corrected µCi/sec to µCi/ml
	WMT Disch REM-1WL-3541 corrected µCi/sec to µCi/ml
	Added Turbine Bldg Drain REM-1WL-3528 µCi/ml

R
Reference
Use

CAROLINA POWER & LIGHT COMPANY

SHEARON HARRIS NUCLEAR POWER PLANT

PLANT OPERATING MANUAL

VOLUME 2

PART 5

PROCEDURE TYPE: Plant Emergency Procedure

NUMBER: PEP-342

TITLE: Core Damage Assessment

Table of Contents

1.0 PURPOSE

The purpose of this procedure is to provide guidance for performing core damage assessments during an emergency at the HNP. The HNP DAMAGE program is designed to be used in conjunction with this procedure.

2.0 INITIATING CONDITIONS

1. An emergency has been declared.

2. Whenever there are indications of core damage or when events require the estimation of the type and amount of core damage.

3.0 PROCEDURE

3.1 Determine Appropriate and Available Assessment Methods

1. The magnitude and type of event, transport mechanism and time after shutdown will be influencing factors on the method(s) utilized to determine the extent of core damage. Damage estimates can be developed using one or more methods as they become available or applicable.

2. Choose the assessment method(s) most appropriate for the existing conditions. Methods available for assisting in the determination of the extent of core damage include the following:

   a) Isotopic Liquid Concentration Analysis - (Section 3.4)

   b) Isotopic Gaseous Concentration Analysis - (Section 3.5)

   c) Containment Radiation Analysis - (Section 3.6)

   d) Containment Hydrogen Analysis - (Section 3.7)

   e) Nuclide Ratio and Presence of Abnormal Isotopes Analyses - (Section 3.8)

   f) Core Exit Temperatures and Core Uncovery Time Analyses - (Section 3.9)

3.2 Start Up the Core Damage Application

1. Start the computer.

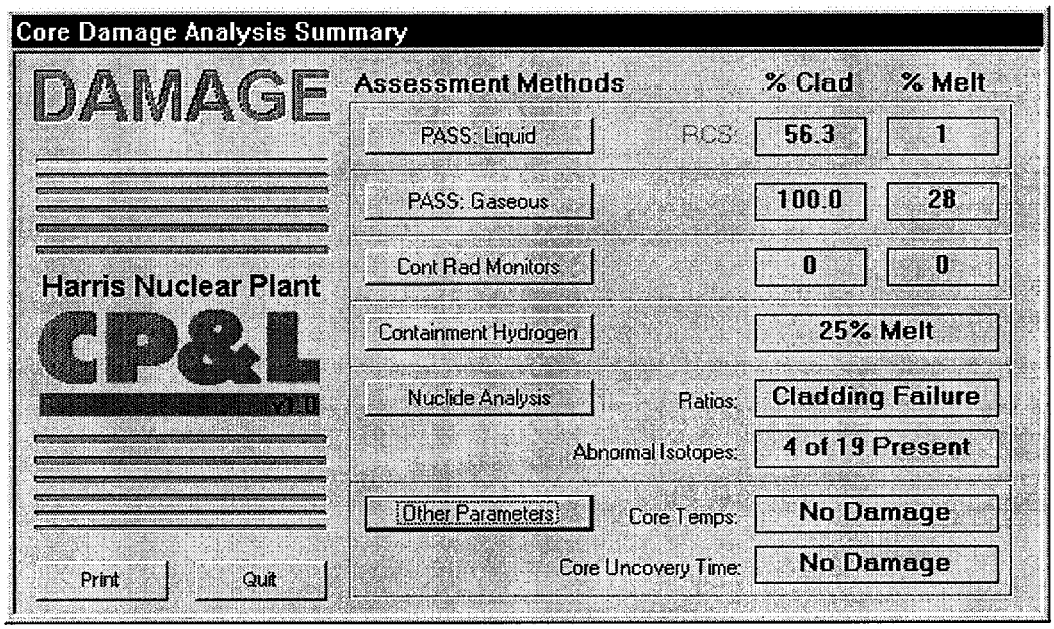
2. Start DAMAGE program – A shortcut Icon labeled DAMAGE v1.0 should be located on the desktop. If not, locate the program on the C Drive, Program Files Folder -- DAMAGE Folder.

3. If the computer does not operate or the DAMAGE program will not run, use another computer (application disks are located in the TSC AAT Cabinet).

3.0 PROCEDURE (continued)

3.3 Summary Screen

1. The summary screen shows the application version and offers the user options to direct program flow. Results of any completed assessment methods are provided to assist in determining an overall best estimate of the amount of core damage.



2. Select the assessment method appropriate for the available conditions and information. Available methods are as follows:

   a) PASS Liquid

   b) PASS Gaseous

   c) Cont Rad Monitors

   d) Containment Hydrogen

   e) Nuclide Analysis

   f) Other Parameters

3. Select 'Print' for a summary report of the items listed on the main screen.

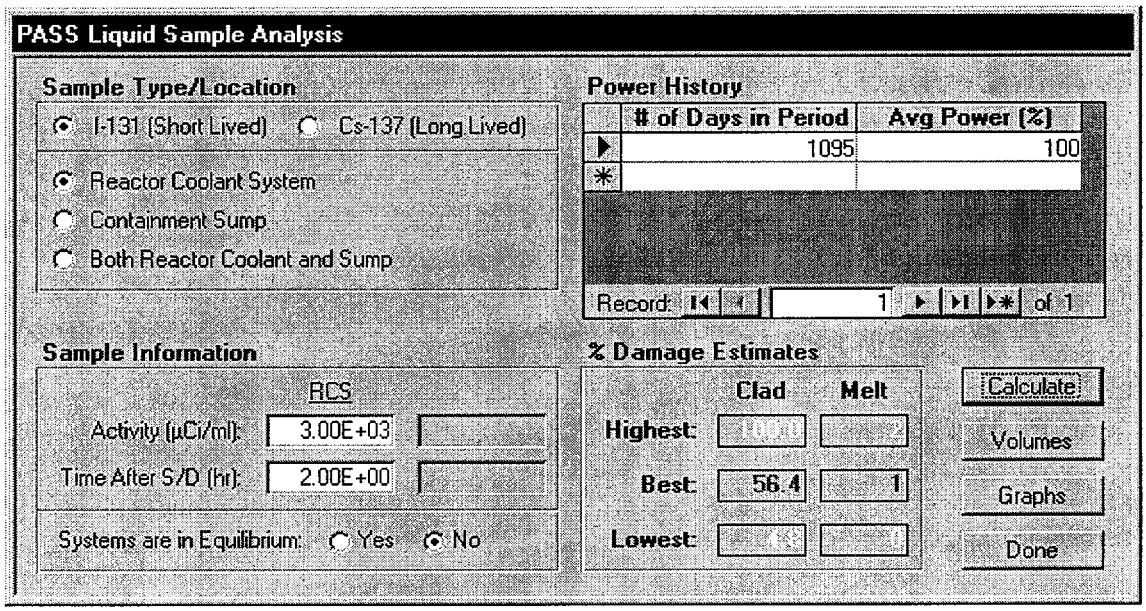
Note: Selecting 'Quit' will clear all tables and fields of entered data before closing the application. Subsequent start-up will begin a new session.

4. Select 'Quit' to close the program and quit Microsoft Access.

3.0 PROCEDURE (continued)

3.4 Isotopic Liquid Concentration Analysis

The PASS sample analysis estimation compares a corrected liquid fission product concentration to plant specific expected core damage curves. PASS liquid samples are required to be completed within 3 hours of the time the decision to obtain the sample has been made. It is not typically useful to attempt to determine an amount of core damage using this method until the plant has been stabilized.



1. Enter the required values.

   a) Sample Type/Location

      (1) Sample type will be determined by the information available from Chemistry. Typically the long lived isotope is masked for several days following reactor shutdown.

      (2) Liquid samples may be from the Reactor Coolant System, Containment Sump or both.

   b) Sample Information

      (1) Activity for the sample.

      (2) Time after shutdown (time in hours from reactor shutdown to when the sample is drawn from the system).

      (3) System equilibrium status. Compensates for activity located throughout both systems whenever only one sampled location has been obtained.

3.0 PROCEDURE (continued)

c) Power History

(1) Input the most recent period first (record #1).

(2) For short-lived isotopes, the total duration of the operational periods should extend at least 30 days (~six half-lives).

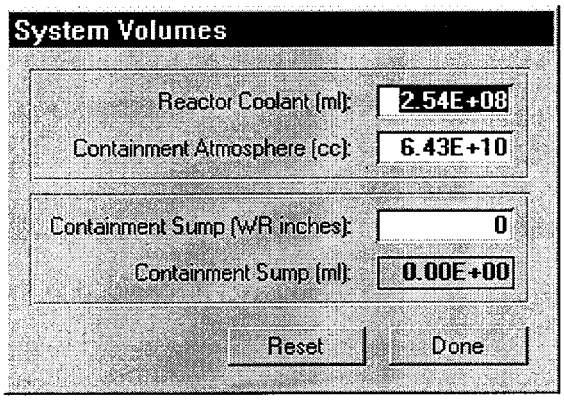
Variations in steady state power should be limited to ±10% within each of the operational periods.

(3) For long-lived isotopes, the total duration of the operational periods should extend throughout the cycle.

Variations in steady state power should be limited to ±20% within each of the operational periods.

2. Select 'Calculate' to determine damage values when all required information has been entered.

3. Select 'Volumes' to check or change the system volumes used by the application.



a) Reactor Coolant - default volume assumes the vessel and pressurizer are full.

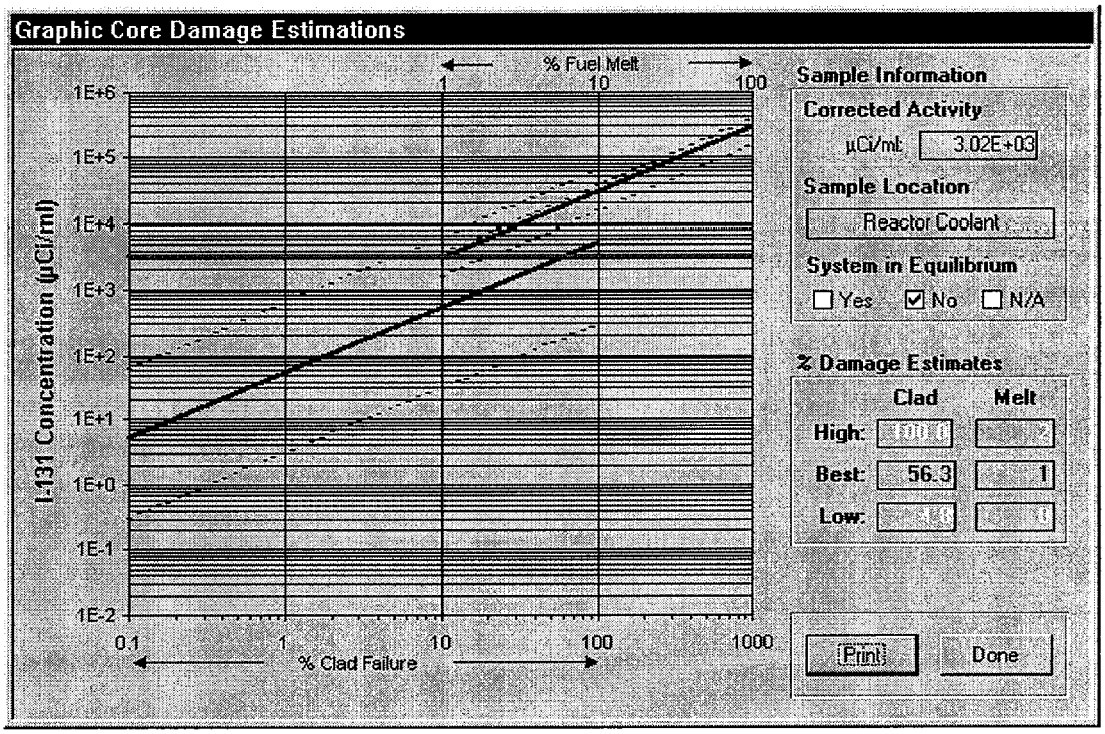
b) Containment Sump - The minimum containment sump level (WR) is 128". Below this value the water has not entered the recirc sump and an RHR sample would not be appropriate. 0" is used until the level reaches 128" for containment sump damage estimations.

c) Select 'Reset' to restore the default volumes.

d) Once desired entries are made select 'Done' to return to the PASS window.

3.0 PROCEDURE (continued)

4. Select 'Graphs' to provide an illustration of the sample results versus the damage estimate lines for the selected isotope.



a) Key data is displayed in user disabled fields.

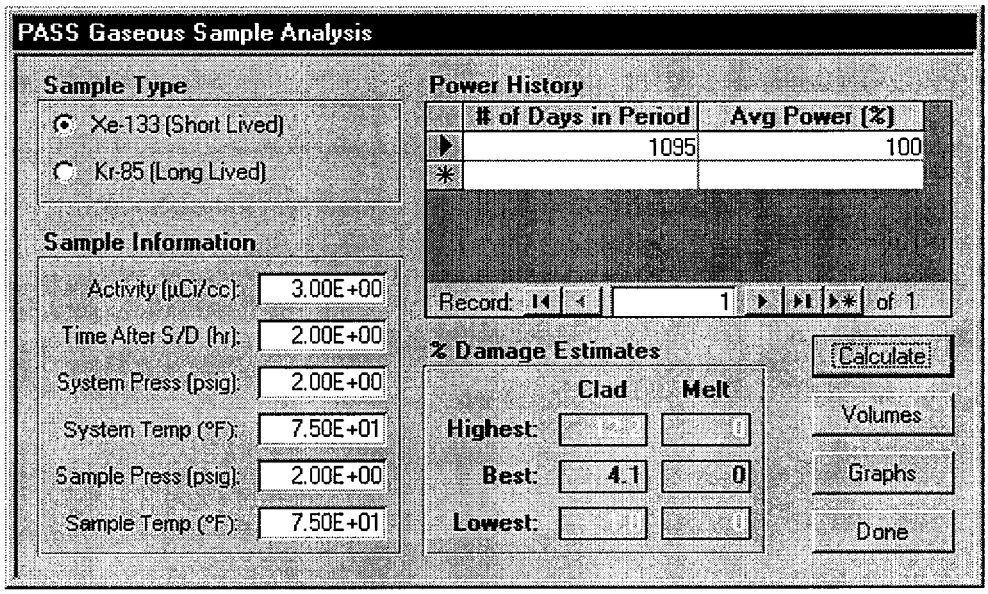
b) Select 'Print' to print a report for this method.

c) Select 'Done' and return to previous window.

3.0 PROCEDURE (continued)

3.5 Isotopic Gaseous Concentration Analysis

The PASS sample analysis estimation compares a corrected gaseous fission product concentration to plant specific expected core damage curves. PASS gaseous samples are required to be completed within 3 hours of the time the decision to obtain the sample has been made. It is not typically useful to attempt to determine an amount of core damage using this method until the plant has been stabilized.



1. Enter the required values.

   a) Sample Type - Sample type will be determined by the information available from Chemistry. Typically the long lived isotope is masked for several days following reactor shutdown.

   b) Sample Information

      (1) Activity for the sample.

      (2) Time after shutdown (time in hours from reactor shutdown to when the sample is drawn from the system).

      (3) System Pressure and Temperature - Obtained from ERFIS archives if not recorded when sample is drawn.

      (4) Sample Pressure and Temperature - Obtained from Chemistry when sample is drawn.

c) Power History

(1) Input the most recent period first (record #1).

(2) For short-lived isotopes, the total duration of the operational periods should extend at least 30 days (~six half-lives).

Variations in steady state power should be limited to ±10% within each operational of the periods.

(3) For long-lived isotopes, the total duration of the operational periods should extend throughout the cycle.

Variations in steady state power should be limited to ±20% within each of the operational periods.

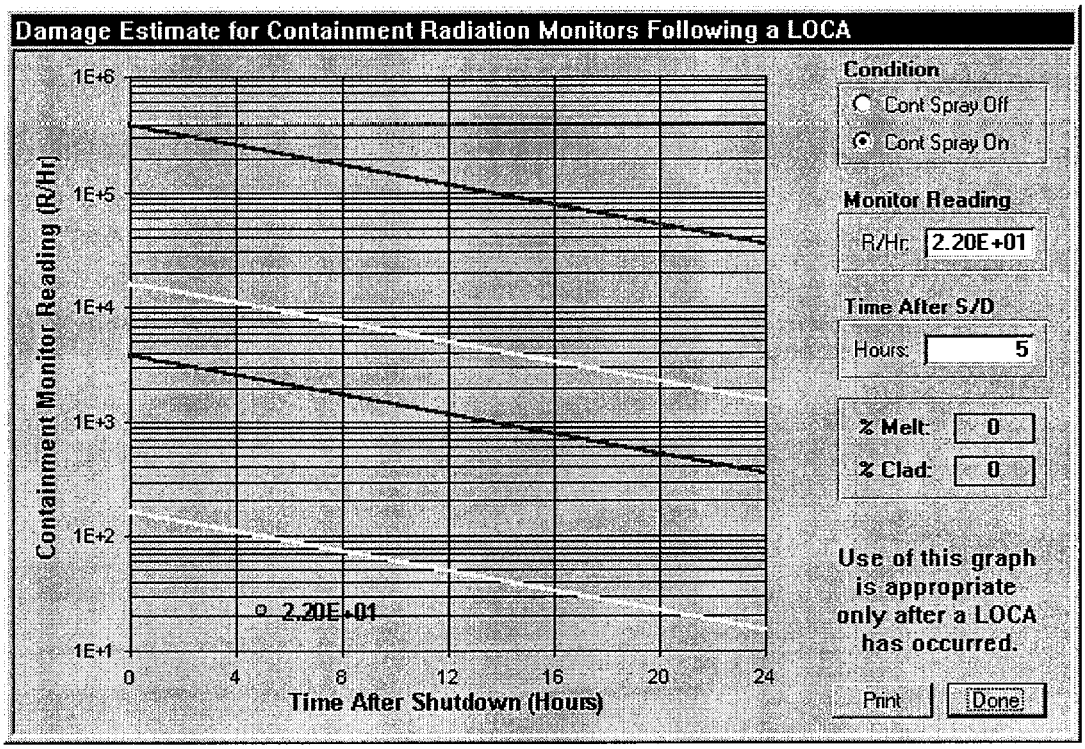
2. Select 'Calculate' to determine damage values when all required information has been entered.

3. See section 3.4 for explanation of 'Volumes' and 'Graphs' buttons.

3.0 PROCEDURE (continued)

3.6 Containment Radiation Analysis

Containment radiation monitor analysis estimation compares the monitor reading with an expected reading for a given core damage scenario. The application takes in account containment spray status and time after shutdown.



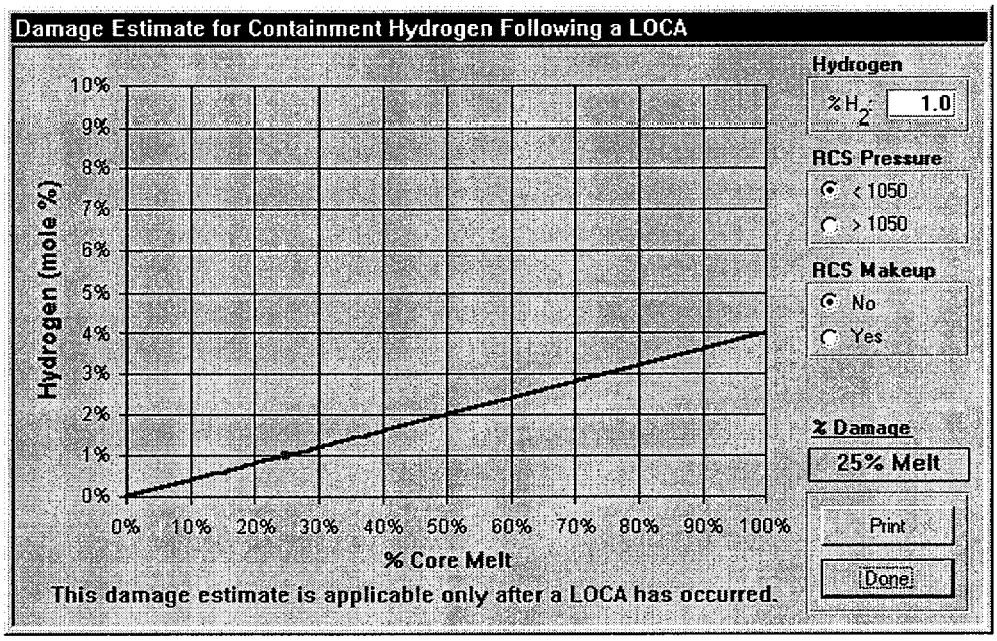
Note: Red lines are used to illustrate the upper and lower melt thresholds (100% to 1%). Yellow lines are used to illustrated clad upper and lower thresholds (100% to 1%).

1. Enter required values.
   a) Condition - whether sprays are on or off
   b) Monitor Reading
   c) Time after shutdown
2. Select 'Print' to print a report for this method.
3. Select 'Done' and return to previous window.

3.0 PROCEDURE (continued)

3.7 Containment Hydrogen Analysis

Containment Hydrogen analysis (taken from hydrogen monitor or dry sample analysis) compares the monitor reading with an expected reading for a given core damage scenario.



1. Enter or select the required inputs.

   (1) % Hydrogen

   (2) RCS Pressure

   (3) RCS Makeup (any source of cold water injection)

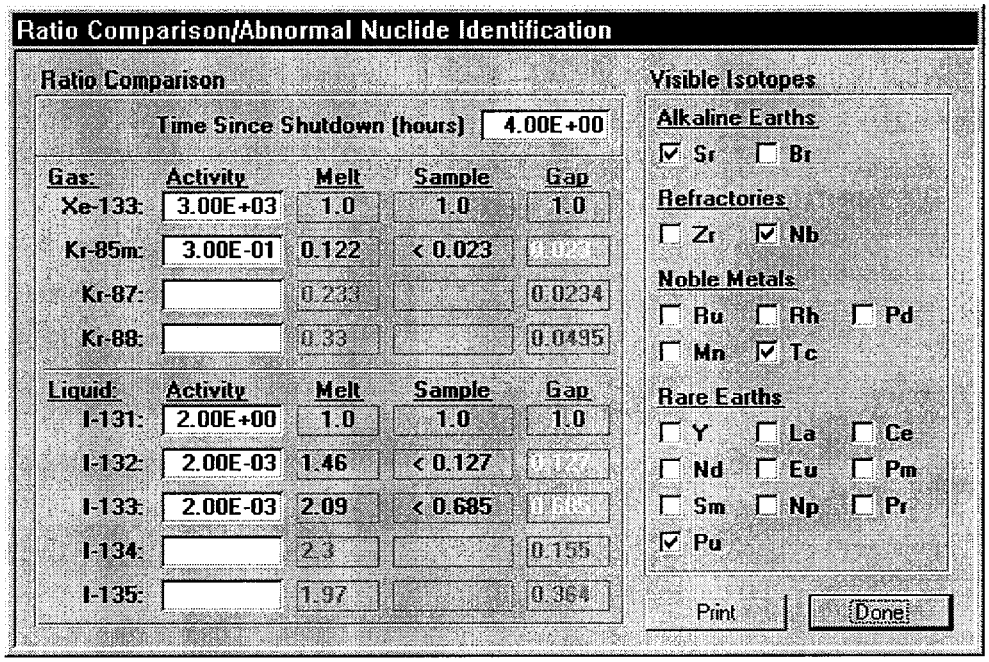
2. Select 'Print' to print a report for this method.

3. Select 'Done' and return to previous window.

3.0 PROCEDURE (continued)

3.8 Nuclide Ratio and Presence of Abnormal Isotopes Analyses

This window estimates core damage in two ways. Either by the ratio of nuclides to each other or by the presence of rare isotopes. Results will be qualitative (Clad or Melt) rather than quantitative but may assist in the overall estimate when used in conjunction with the other methods.



1. Enter required values.

   a) Time since shutdown (time in hours from reactor shutdown to when the sample is drawn from the system).

   b) Gaseous Samples - At a minimum, Xe-133 and one other Noble Gas is required to provide indication of the type of damage.

   c) Liquid Samples - At a minimum, I-131 and one other Halogen is required to provide indication of the type of damage.

   d) Select (check) the presence of abnormally high concentrations of the listed isotopes which may be indicative of core melt.

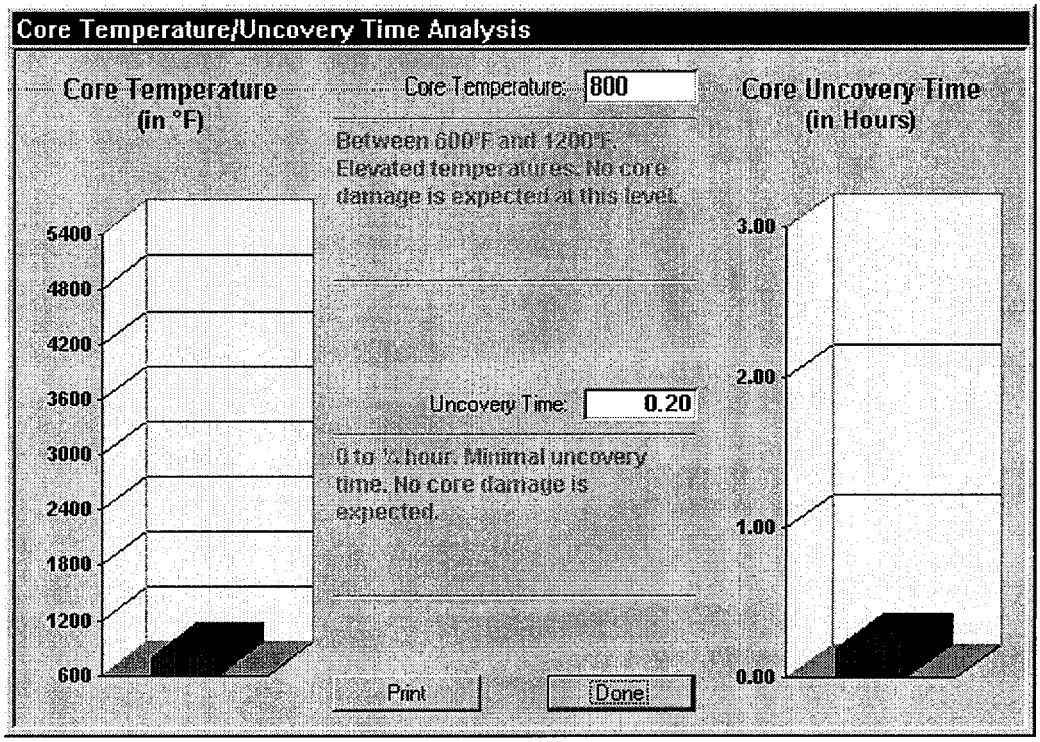
2. Select 'Print' to print a report for this method.

3. Select 'Done' and return to previous window.

3.0 PROCEDURE (continued)

3.9 Core Exit Temperatures and Core Uncovery Time Analyses

Core temperature/Core uncovery time can be used to estimate the amount of core damage. Results will be qualitative (Clad or Melt) rather than quantitative but may assist in the overall estimate when used in conjunction with the other methods.



1. Enter required values

   a) Core Temperature - based on core exit thermocouples.

   b) Core Uncovery Time - (RVLIS Full Range < 39%).

2. Select 'Print' to print a report for this method.

3. Select 'Done' and return to previous window.

3.0 PROCEDURE (continued)

3.10 Reports

1. Individual Reports for individual methods are printed from each of the analysis windows.

2. The Core Damage Summary Analysis is printed from the summary (main) window. It provides a summary of the methods used for the core damage analysis. To complete the report the items must be completed:

   a) A determination of the best estimate of the type and quantity of core damage based upon the available indications.

   b) A determination of the NRC numeric representation of the core condition category.

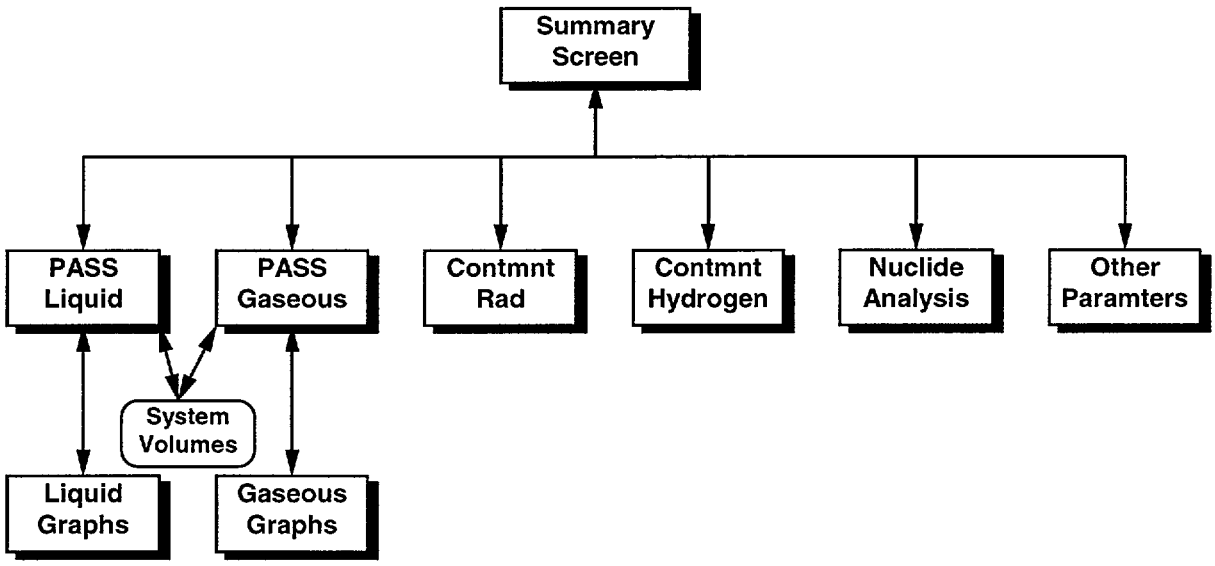
   c) Name, date and time for when the report is completed.

3. Reports should be provided to the Site Emergency Coordinator (SEC), Technical Analysis Director (TAD), the Radiological Control Manager (RCM), and to the Radiological Control Director (RCD).

4.0 GENERAL

4.1 Basic Program Flow Diagram

DAMAGE, Version 1.0 is a Microsoft Windows based application designed in Access that contains standard user interfaces. Instructions are not provided in basic computer operations in the Windows® environment. The user must be familiar with these to efficiently operated the program.



4.0 GENERAL (continued)

4.2 DAMAGE Program Use

The program is to be used to estimate the type and amount of core damage. The primary purpose of these damage estimates are:

1. Used to confirm whether fuel barriers are breached.

2. To determine the potential quality (type) and/or quantity (%) of source term available for release in support of projected offsite doses.

3. To support the determination of radiological protection actions that should be considered for long term recovery activities.

4. Satisfy inquiries from local and federal government agencies and provide evidence that the utility understands the plant conditions.

4.3 Limitations of the DAMAGE Application

1. The program should be used by qualified personnel as a tool to estimate type and amount of core damage.

2. Other methods of estimating core damage should also be considered as time permits.

5.0 REFERENCES

1. EPM-601, Core Damage Assessment Technical Bases

6.0 DIAGRAMS / ATTACHMENTS

1. Attachment 1, Sample Summary Report

2. Attachment 2, Sample PASS Sample Report

Sample Summary Report

Core Damage Estimate: **Summary Analysis**

Assessment Methods		% Clad	% Melt
PASS Liquid Analysis	RCS:	0.0	0
PASS Gaseous Analysis		27.1	0
Containment Radiation Monitors^		69	4
Containment Hydrogen Concentration^		7% Melt	
Isotopic Ratio/Abnormal Nuclide Analysis	Ratios:	Fuel Melt	
	Abnormal Isotopes:	4 of 19 Present	
Other Plant Parameters/Indications	Core Temps:	Possible Rupture	
	Core Uncovery Time:	Fuel Melting	

^ These methods should NOT be used for qualitative or quantitive assessment except in the case of a LOCA.

Analyst's Estimate:

☐ No Damage ☐ Cladding Failure ☐ Fuel Melt Amount:

NRC Core Condition Category:

Degree of Degradation	Minor (<10%)	Intermediate (10%-50%)	Major (>50%)
No Fuel Damage	1	1	1
Cladding Failure	2	3	4
Fuel Overheat	5	6	7
Fuel Melt	8	9	10

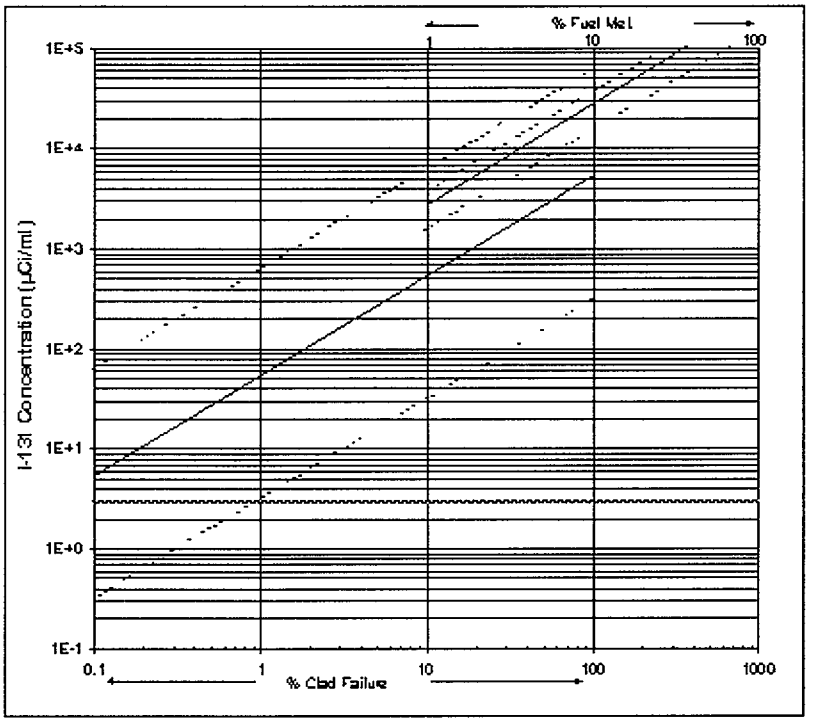
Generated By:

Name: _____ Date: _____ Time: _____

HNP DAMAGE v1.0

Sample PASS Sample Report

Core Damage Estimate: **PASS I-131 Activity**



Sample Data

	RCS	Sump
Activity (µCi/ml):	3.00E+00	
Time After S/D (hr):	0.00E+00	

Systems Are In Equilibrium: ○ Yes ◉ No

Damage Estimates

Normalized Activity (µCi/ml): 3.00E+00

	% Clad	% Melt
High Estimate:	1.0	0
Best Estimate:	0.0	0
Low Estimate:	0.0	0

Assessment Data:

Name: _____ Date: _____ Time: _____

PASS I-131 Activity HHP DAMAGE v1.0

'Damage' the new core damage assessment code is being implemented with this revision of PEP-342. The old code will be retired. The technical basis for this code is contained in EPM-601.