Progress Energy

Serial: NPD-NRC-2009-005
January 16, 2009

10CFR52.79

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

SHEARON HARRIS NUCLEAR POWER PLANT, UNITS 2 AND 3
DOCKET NOS. 52-022 AND 52-023
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 048 RELATED TO EMERGENCY PLANNING

References: Letter from Brian C. Anderson (NRC) to James Scarola (PEC), dated November 13, 2008, "Request for Additional Information Letter No. 048 Related to SRP Section 13.3 for the Shearon Harris Units 2 and 3 Combined License Application"

Ladies and Gentlemen:

Progress Energy Carolinas, Inc. (PEC) hereby submits our response to the Nuclear Regulatory Commission's (NRC) request for additional information provided in the referenced letter.

A response to each NRC request is addressed in the enclosure. The enclosure also identifies changes that will be made in a future revision of the Shearon Harris Nuclear Power Plant Units 2 and 3 application.

If you have any further questions, or need additional information, please contact Bob Kitchen at (919) 546-6992, or me at (919) 546-6107.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on January 16, 2009.

Sincerely,

Garry D. Miller
General Manager
Nuclear Plant Development

Enclosure/Attachments

cc: U.S. NRC Director, Office of New Reactors/NRLPO
U.S. NRC Office of Nuclear Reactor Regulation/NRLPO
U.S. NRC Region II, Regional Administrator
U.S. NRC Resident Inspector, SHNPP Unit 1
Mr. Manny Comar, U.S. NRC Project Manager

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NRO

Shearon Harris Nuclear Power Plant Units 2 and 3
Response to NRC Request for Additional Information Letter No. 048 Related to SRP Section 13.3 for the Combined License Application, dated November 13, 2008

NRC RAI #	Progress Energy RAI #	Progress Energy Response
13.03-59 (SITE-1)	H-0232	Response enclosed – see following pages
13.03-60 (SITE-2)	H-0233	Response enclosed – see following pages
13.03-61 (SITE-3)	H-0234	Response enclosed – see following pages
13.03-62 (SITE-5)	H-0235	Response enclosed – see following pages
13.03-63 (SITE-6)	H-0236	Response enclosed – see following pages
13.03-64 (SITE-8)	H-0237	Response enclosed – see following pages
13.03-65 (SITE-9)	H-0238	Response enclosed – see following pages
13.03-66 (SITE-10)	H-0239	Response enclosed – see following pages
13.03-67 (SITE-11)	H-0240	Response enclosed – see following pages
13.03-68 (SITE-12)	H-0241	Response enclosed – see following pages
13.03-69 (SITE-13)	H-0242	Response enclosed – see following pages
13.03-70 (SITE-14)	H-0243	Response enclosed – see following pages
13.03-71 (SITE-15)	H-0244	Response enclosed – see following pages
13.03-72 (SITE-16)	H-0245	Response enclosed – see following pages
13.03-73 (SITE-17)	H-0246	Response enclosed – see following pages
13.03-74 (SITE-18)	H-0247	Response enclosed – see following pages
13.03-75 (ITAAC-19)	H-0248	Response enclosed – see following pages

Attachments/Enclosures	Associated NRC RAI #	Pages Included
Table A-1 (Revised)	13.03-59 (SITE-1)	2 pages
Figure A-2 (Revised)	13.03-59 (SITE-1)	1 page
Letter of Agreement – INPO	13.03-59 (SITE-1)	1 page
Letter of Agreement – NWS	13.03-59 (SITE-1)	3 pages
Signature Page – Atlantic Group	13.03-59 (SITE-1)	1 page
Letter of Agreement – WG	13.03-59 (SITE-1)	2 pages
Signature Page – M&T	13.03-59 (SITE-1)	1 page
Signature Page – WEC	13.03-59 (SITE-1)	1 page
Letter of Agreement – WSI	13.03-59 (SITE-1)	1 page
HAR EP Figure B-2 (Revised)	13.03-60 (SITE-2)	1 page
Part 10, Table 3.8-1 (Revised)	13.03-75 (ITAAC-19)	26 pages

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-59 – Site 01

Text of NRC RAI:

A. Section A, "Assignment of Responsibility (Organizational Control)," of the Harris Nuclear Plant (HNP) Emergency Plan, Table A-1, "Organizations Participating in Emergency Response," defines assignment of responsibility, however there was inconsistency noted between text, tables and figures within the HNP Emergency Plan. Table A-1 and Figures A-1 and A-2 do not contain consistent terminology and are not consistent with some components listed in the narrative (i.e., FEMA is discussed in Section A.6.2 and the Department of Homeland Security in A.6.3 but neither is listed in Table A-1 or Figures A-1 and A-2. Corporate communications and management were listed in the diagrams but only Harris Nuclear Plant responsibilities were listed in the narrative.) Clarify inconsistencies between text, tables and figures.

B. Section A, "Assignment of Responsibility (Organizational Control)," of the HNP Emergency Plan identifies 24-hour communication capabilities, including titles of responsible individuals, for the State of North Carolina, Counties of Chatham, Harnett, Lee and Wake, and various private and federal organizations, however there was no clearly stated 24-hour communication point identified for HNP within the HNP Emergency Plan. Clarify the HNP 24-hour communication point of contact.

C. Appendix 3, "Letters of Agreement," of the HNP Emergency Plan is a list of support organizations that states "copies of the original agreements are kept on file by HNP Emergency Preparedness or Progress Energy Contract Services," however no letters of agreement or signature pages exist in the HNP Emergency Plan. Provide the appropriate letters of agreement or signature pages.

PGN RAI ID #: H-0232

PGN Response to NRC RAI:

A. Section A, "Assignment of Responsibility (Organizational Control)," Response:

The discrepancies noted between the text, tables, and figures have been recognized. The narrative in Section A, specifically Section A.5.2, "Industry Resource Support," discusses the role and capabilities of INPO. Additionally, Section A.6, "Federal Government," describes support from the DOE, FEMA/DHS, and the NRC. Out of these four supportive organizations, Table A-1 only includes the NRC. Additional entries into Table A-1 will be made to include INPO, DOE and DHS/FEMA as organizations participating in emergency response.

Figures A-1 and A-2 show the ERO interfaces, but Figure A-1 is specific to interfaces prior to the TSC and EOF being activated, where Figure A-2 is specific to interfaces after the TSC and EOF have been activated. In the event that Federal support would become required, the TSC and EOF would be activated. Thus, Figure A-2 will be revised to include FEMA/DHS under the column "Request Assistance (if Necessary)".

Corporate Communications, as listed in Table A-1 and Figure A-2, is a generic term for various communication positions within the ERO that are described in detail throughout the HNP Emergency Plan. Similarly, Corporate Management, as listed in Figures A-1 and A-2, simply shows the interface of communication between various positions at the corporate level and the ERO, specifically the Site Emergency Coordinator (CR) and the Emergency Response Manager, respectively. Thus no additional description in the narrative of the HNP Emergency Plan specific to Corporate Communications or Corporate Management is deemed necessary.

B. Section A, "Assignment of Responsibility (Organizational Control)," Response:

The HNP 24-hour communication point of contact is the Control Room – Superintendent - Shift Operations (SSO). The responsibilities for Superintendent - Shift Operations, under Section B.4.1, "Control Rooms," will be modified to include a fifth responsibility of 24-hour communication point of contact.

C. Appendix 3, "Letters of Agreement," Response:

Appendix 3, "Letters of Agreement," of the HNP Emergency Plan lists a total of 20 support organizations where copies of original agreements are kept on file by HNP Emergency Preparedness or Progress Energy Contract Services. As part of the original HNP COL Application, Part 5 Emergency Plan, Supplemental Information, certification letters for 13 of the 20 organizations listed in Appendix 3 were provided. Those 13 organizations include:

- Apex Volunteer Fire Department
- Town of Holly Springs Department of Public Safety Division of Municipal Fire Services
- Apex Rescue Squad, Inc.
- Rex Hospital
- WakeMed Raleigh
- WakeMed Cary
- Douglas I. Hammer, M.D.
- Charul Haugan, M.D.
- State of North Carolina
- Chatham County
- Harnett County
- Lee County
- Wake County

The following is a listing of the remaining 7 organizations and a brief summary of services provided.

- Institute of Nuclear Power Operations: Assist in acquiring the help of other organizations in the industry including providing technical information from Progress Energy to the industry, locating replacement equipment and personnel, obtaining technical information regarding plant components and systems, and providing a liaison to facilitate interface.
- National Weather Service: Provide meteorological information during emergency situations.

- Atlantic Group: Provide general maintenance and technical support.
- Washington Group: Provide general maintenance and technical support.
- Murray and Trettel: Provide on demand services for localized meteorological support.
- Westinghouse Electric Corporation: Provide engineering support for Units 1, 2, and 3.
- Weather Services International (WSI): Provide on demand services for localized meteorological support.

Copies of the agreements or signature pages of the agreements, for these 7 organizations are included with this response (see Attachments 13.03-59C through 13.03.59I).

Associated HAR COL Application Revisions:

The following changes will be made to the HAR Emergency Plan in a future amendment:

1. Table A-1, "Organizations Participating in Emergency Response," will be updated to include the following three entries (see Attachment 13.03-59A for the complete updated Table A-1):

Organization Approximate	Contact	Location for Response	Approximate Response Time	Agent for Initial Notification
Institute of Nuclear Power Operations (INPO)	Designated Staff	HNP	5-8 Hours	INPO representative – 24-hour emergency call number.
U.S. Department of Energy (DOE)	Designated Staff	HNP	5-8 Hours	Region Operations Manager - Aiken, SC
Federal Emergency Management Agency (FEMA)/Department of Homeland Security (DHS)	Designated Staff	HNP	5-8 Hours	Regional Operations Manager - Atlanta, GA

2. Figure A-2, "Emergency Response Organization (ERO) Interfaces (TSC and EOF Activated)," will be updated to include FEMA/DHS under the column "Request Assistance (if Necessary)". See Attachment 13.03-59B for the complete updated Figure A-2.

3. Revise EP Section B.4.1.a from:

   a. Superintendent – Shift Operations: Until an emergency is declared, the Superintendent – Shift Operations has the following responsibilities relating to the Emergency Plan:

      1. Direct the activities of the Operations staff (USCOs, COs, and NLOs).
      2. Recognize an off-normal condition as indicated by instrument readings, direct observation of plant conditions, or an onsite/offsite report of conditions that may impact the plant.
      3. Implement any Emergency Operating Procedures.

4. Determine when an Emergency Action Level has been met or exceeded, declare an emergency, and assume the position of Site Emergency Coordinator – CR.

To read:

a. Superintendent – Shift Operations: Until an emergency is declared, the Superintendent – Shift Operations has the following responsibilities relating to the Emergency Plan:

   1. Direct the activities of the Operations staff (USCOs, COs, and NLOs).
   2. Recognize an off-normal condition as indicated by instrument readings, direct observation of plant conditions, or an onsite/offsite report of conditions that may impact the plant.
   3. Implement any Emergency Operating Procedures.
   4. Determine when an Emergency Action Level has been met or exceeded, declare an emergency, and assume the position of Site Emergency Coordinator – CR.
   5. 24-hour communication point of contact.

Attachments/Enclosures:

Attachment 13.03-59A: Table A-1 (Revised)

Attachment 13.03-59B: Figure A-2 (Revised)

Attachment 13.03-59C: Letter of Agreement - Institute of Nuclear Power Operations

Attachment 13.03-59D: Letter of Agreement - National Weather Service

Attachment 13.03-59E: Signature Page - Atlantic Group

Attachment 13.03-59F: Letter of Agreement - Washington Group

Attachment 13.03-59G: Signature Page - Murray and Trettel

Attachment 13.03-59H: Signature Page - Westinghouse Electric Corporation

Attachment 13.03-59I: Letter of Agreement - Weather Services International (WSI)

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-60 – Site 02

Text of NRC RAI:

A. Section B.1, "General," (page B-1) of the Harris Nuclear Plant (HNP) Emergency Plan states that the HNP emergency organization is compatible with and integrated into the normal mode of operation, however the normal plant operating organization description was not clear. Provide a comprehensive description of the HNP normal plant operating organization.

B. Appendix 5, "NUREG-0654 Cross Reference," of the HNP Emergency Plan references the Administrative and Logistics Manager (Section B.4.4.f) as the position responsible for logistics support for emergency personnel; the Technical Analysis Manager (Section B.4.4.j) for technical support for planning and reentry/recovery; the Communications Manager (Section B.4.4.u) as the management interface with governmental authorities; and the Company Spokesperson (Section B.4.5.a) for release of information, coordinated with governmental authorities, to news media during an emergency. None of the details for these positions were included in the position descriptions in Section B.4 of the plan. Provide additional information summarizing how the functions of logistics support for emergency personnel, technical support for planning and reentry/recovery operations, management level interface with governmental authorities, and release of information, coordinated with governmental authorities, to news media during an emergency are conducted during an emergency at the Harris Nuclear Plant.

C. Table B-1, "Minimum Staffing Requirements for Emergencies," of the HNP Emergency Plan indentifies minimum shift staffing. Appendix 5, "NUREG-0654 Cross Reference," Criteria B.5 and B.7, lists positions by section and title in the HNP Emergency Plan. Some emergency positions listed in Table B-1 are inconsistent with the position titles listed in Appendix 5, Criteria B.5 and B.7, such as the Plant Operations Director-CR and Shift Technical Advisior. Also there are inconsistencies in section numbers for Maintenance Planners, Radiological Control Coordinator, Chemistry Team, and Radiological Control Team between the Emergency Plan text and Appendix 5. Section B.4.5, "Joint Information Center (JIC)," (pages B-13, 14) of the HNP Emergency Plan identifies an Administrative Assistant (Section B.4.5.e) and Customer Service Center (Section B.4.5.h) but neither is shown in Figure B-2, "Harris Emergency Response Organization (EOF, JIC)." Also, Section B.4.5.d, "Administrative Coordinator," states that the position reports to the Technical Specialist (Section B.4.5.b) but Figure B-2 shows that the position reports to the Company Spokeperson (sic) (section B.4.5.a) *(note: spelling typo in Figure B-2)*. Clarify inconsistencies between Section B.4, Table B-1, Figure B-2, and Appendix 5 position titles.

D. Figure B-1, "Harris Emergency Response Organization (CR, TSC, OSC)," of the HNP Emergency Plan shows the Site Emergency Coordinator-Control Room (SEC-CR) reporting to the Plant Operations Director but Section B.4.1.b, "Site Emergency Coordinator – CR," (page B-4) states that the duties are turned over to the Site Emergency Coordinator-Technical Support Center (SEC-TSC) and the Emergency Response Manager after the TSC is activated. Explain the role and title of the SEC-CR after the SEC-TSC takes over.

PGN RAI ID #: H-0233

PGN Response to NRC RAI:

A. Provide a comprehensive description of the HNP normal plant operating organization.

The normal plant operating organization is described in Section 13 of the Unit 1 and Units 2 & 3 FSARs. Personnel complement is established with the Vice President, Harris Nuclear Plant having overall authority for plant operations. The Vice President, Harris Nuclear Plant, directs the site organization in the management of the various plant departments while the Shift Superintendent-Operations (S-SO) retains the responsibility for actual operation of plant systems.

The plant has personnel who are on duty 24 hours per day who perform their normal shift duties and who can provide an initial response to an emergency event. These individuals include the following:

Shift Superintendent Operations (S-SO):

The S-SO is a licensed Senior Reactor Operator (SRO) who is responsible for the Control Room command function and directs the activities of the operating crew in the Control Room. The S-SO has the responsibility and authority to direct the activities and personnel onsite as required to:

- Protect the health and safety of the public, the environment, and personnel on the plant site.
- Protect the physical security of the plant.
- Prevent damage to site equipment and structures.
- Comply with the operating license.

Additional responsibilities include:

- Directing plant employees to report to the plant for response to potential and real emergencies.
- Requesting advice and guidance from the Shift Technical Advisor (STA) and others in executing the duties of the S-SO whenever in doubt as to the proper course of action.
- Promptly informing responsible supervisors of significant actions affecting their responsibilities.
- Participating in operator training, retraining, and requalification activities from the standpoint of providing guidance, direction, and instruction to shift personnel.

Unit Senior Control Operator (USCO):

The USCO is a licensed SRO whose primary function is to administratively support the

S-SO such that the "command function" is not overburdened with administrative duties and to supervise the licensed and non-licensed operators in carrying out actions, as directed by the S-SO. The USCO reports directly to the S-SO. Other duties include:

- Being aware of maintenance and testing performed during the shift.
- Shutting down the reactor if conditions warrant.
- Informing the S-SO and other plant management in a timely manner of conditions which might affect public safety, plant personnel safety, plant capacity or reliability, or cause a hazard to equipment.
- Initiating immediate corrective action, as directed by the S-SO, in any upset situation until assistance arrives, if required.
- Participating in operator training, retraining, and requalification activities from the standpoint of providing guidance, direction, and instruction to shift personnel.

Control Operators:

The Control Operators are licensed reactor operators who report to the Unit SCO. They are responsible for routine plant operations and performance of major evolutions as directed. Other responsibilities include monitoring Control Room instrumentation; responding to plant or equipment abnormalities; directing activities of non-licensed operators; and initiating plant shutdowns or scrams or other compensatory actions when observation of plant conditions indicates a nuclear safety hazard, or when directed by procedures.

Non-Licensed Operators:

Non-licensed operators are assigned to each shift and are responsible for operating plant equipment throughout the plant. Duties include assisting in plant startup, shutdown, surveillance, and emergency response and performing assigned tasks in procedures and checklists.

Shift Technical Advisor (STA):

The STA reports directly to the S-SO and provides advanced technical assistance to the operating shift complement during normal and abnormal operating conditions. Responsibilities include monitoring core power distribution and critical parameters and independently observing plant status and advising shift supervision of conditions that could compromise plant safety. During transients or accident situations, the STA independently assesses plant conditions and provides technical assistance and advice to mitigate the incident.

In addition, an individual (or group of individuals) on each shift is trained and available to act as the shift Emergency Communicator in the Control Room. This individual is responsible for notification of a declared emergency to plant personnel, state and county agencies, and the NRC.

Radiation Protection:

Radiation protection personnel are responsible for the handling and monitoring of radioactive materials, as defined in the Radiation Protection Program and procedures. Radiation protection supervisors and technicians are included in this organization.

Responsibilities of radiation protection technicians include providing coverage and monitoring radiation conditions for jobs potentially involving significant radiation exposure; conducting surveys, assessing radiation conditions, and establishing radiation protection requirements for access to and work within restricted, radiation, high radiation, very high radiation, airborne radioactivity areas, and areas containing radioactive materials; and providing personnel monitoring and bioassay services.

Chemistry:

The plant's chemistry personnel are responsible for sampling of system effluents and the chemical and radio-analytical analysis of those samples. Chemistry supervisors and technicians are included in this organization. A chemistry program is established to monitor and control the chemistry of various plant systems such that corrosion of components and piping is minimized and radiation from corrosion byproducts is kept to levels that allow operations and maintenance with radiation doses as low as reasonably achievable.

Security:

Security personnel are responsible for the physical security of the site, as described in Section 13.6 of the FSARs and in accordance with the Security Plan. Security management and security officers are included in this organization.

Fire Brigade:

A fire brigade is composed of onshift personnel who are trained in fighting fires and related emergencies that could occur. The fire brigade consists of a fire brigade leader and a sufficient number of team members to be consistent with the equipment that must be put in service during a fire emergency. A sufficient number of trained and physically qualified fire brigade members are available onsite during each shift. The fire brigade is composed of at least five members on each shift. The members for any shift do not include the S-SO or any other members of the minimum shift operating crew necessary for the safe shutdown of the unit. Fire brigade members for a shift are designated in accordance with established procedures at the beginning of the shift.

First Aid Team:

A first aid team is composed of onshift personnel and established on all shifts. The first aid team performs and coordinates emergency first aid and search and rescue activities. Individuals assigned to a first aid team will be qualified in courses equivalent to the Red Cross Multimedia First Aid Course.

B. Section B.4.4 of the HNP Emergency Plan, addresses the assignment of responsibilities for personnel supporting the activation and operation of the Emergency Operations Facility. It does not contain the level of detail addressing functions conducted during an emergency. This level of detail is provided in plant emergency procedures.

Per Plant Emergency Procedure PEP-270, Activation and Operation of the Emergency Operations Facility, the following is a summary of the functions conducted during an emergency at the Harris Nuclear Plant for the positions of Administrative and Logistics Manager, Technical Analysis Manager, Communications Manager.

Administrative and Logistics Manager (Section B.4.4.f)

1. Assume the position of Administrative and Logistics Manager.

2. Maintain a log of activities.
3. Synchronize EOF clocks with the MCR.
4. Supervise the activities for access authorization into the EOF.
5. Supervise the activities of the Administrative Team and Assembly Area Leader.
6. Direct the development of relief schedules for all HNP emergency response facilities to provide 24 hour coverage.
7. Initiate and update the HNP employee information line.
8. Make arrangements for personnel, equipment, supplies and other resources in support of the emergency.
9. Maintain accountability for EOF personnel.

Technical Analysis Manager (Section B.4.4.l)

1. Assume the position of Technical Analysis Manager.
2. Maintain a log of activities.
3. Supervise the activities of the EOF Accident Assessment Team.
4. Monitor and assess vital plant parameters and conditions.
5. Provide a technical interface with external support and regulatory agencies.
6. Ensure adequate personnel and material resources are available to support the long term (>12 hours) technical response.
7. Coordinate technical support and engineering efforts.
8. Request any materials or supplies not available on site from the Administrative and Logistics Manager or Admin Team.

Communications Manager (Section B.4.4.u)

1. Assume the position of Communications Manager.
2. Notify the State and County EOCs and Corporate Communications (or the JIC if activated) when the EOF becomes activated.
3. Ensure that communications equipment is in place and functioning properly.
4. Supervise the activities of the Emergency Communicators and the HNP EOC Representatives.
5. Ensure the timely notification and transfer of emergency information to the State and County agencies is performed.
6. Ensure the timely transfer of emergency information to Corporate Communications or the JIC is performed.
7. Ensure the notifications and requests for assistance to external support services and organizations is performed.
8. Request any materials or supplies not available on site from the Administrative and Logistics Manager or Admin Team.

Per Plant Emergency Procedure PEP-250, Activation and Operation of the Joint Information Center, the following is a summary of the functions conducted during an emergency at the Harris Nuclear Plant for the position of Company Spokesperson.

Company Spokesperson (Section B.4.5.a)

1. Assume the position of Company Spokesperson.
2. Maintain a log of activities.
3. Obtain a briefing from the EOF.
4. Notify the EOF and JIC personnel of facility activation.
5. Maintain awareness of offsite agency command and control.
6. Maintain awareness of recent industry events that may become media/public interest items.
7. Coordinate the release of information with Public Information Officers from State and other government agencies.
8. Ensure news releases are issued no later than 45 minutes after an event classification change, radiological release or other significant event that has been provided to the State and counties.
9. Conduct periodic briefings with the news media (within 60 minutes of the Site Area Emergency, General Emergency, radiological release or other significant event).
10. Ensure adequate personnel and material resources are available for the public information response.
11. Conduct Recovery Operations when appropriate.
12. Conduct periodic facility briefings and status updates with the Progress Energy public information staff.
13. Request needed materials or supplies from the Administrative Coordinator.

C. Table B-1, "Minimum Staffing Requirements for Emergencies," of the HNP Emergency Plan identifies minimum shift staffing. Appendix 5, "NUREG-0654 Cross Reference," Criteria B.5 and B.7, lists positions by section and title in the HNP Emergency Plan; however there is one position within requirement B.5 of Appendix 5, "NUREG-0654 Cross Reference," that needs to be removed as it is not considered a minimum staffing position. The position is the Plant Operations Director-CR.

Also the inconsistencies in section numbers listed in Appendix 5, "NUREG-0654 Cross Reference," and the Emergency Plan text will be corrected in a future amendment to the HNP Emergency Plan (see below documented changes).

Figure B-2 listed Administrative Coordinator twice. The second one listed will be corrected to Administrative Assistant. Also Customer Service Center will be added to Figure B-2, "Harris Emergency Response Organization (EOF, JIC)." Figure B-2 will also correct the position of Administrative Coordinator to report to the Technical Specialist (Section B.4.5.b), as stated in the text. The typo for Company Spokesperson will also be corrected (see updated Figure B-2).

D. The HNP Emergency Plan, Section B.4.1.b; "Site Emergency Coordinator – CR," (page B-4) is correct in stating that the duties are turned over to the Site Emergency Coordinator-Technical Support Center (SEC-TSC) and the Emergency Response Manager after the TSC is activated. Following TSC activation, the SEC-TSC, through direction from the Plant Operations Director (POD), provides guidance to the CR staff on emergency plan actions including fire and first aid response, thus allowing the SEC-CR to return to the role of Superintendent – Shift Operations (SSO) to focus on maintaining the plant without the distraction of communications to/from the TSC on overall mitigation.

Associated HAR COL Application Revisions:

The following changes will be made to the HAR EP in a future amendment:

1. Delete the following cross reference and position within Appendix 5, "NUREG-0654 Cross Reference," requirement B.5:

   B.4.3.a, Emergency Repair Director-OSC

2. Update the following three cross references within Appendix 5, "NUREG-0654 Cross Reference," requirement B.5 from:

   B.4.3.d, Maintenance Planners

   To read:

   B.4.3.e, Maintenance Planners

   B.4.3.f, Radiological Control Coordinator

   To read:

   B.4.3.g, Radiological Control Coordinator

   B.4.3.i, Chemistry Team

   To read:

   B.4.3.j, Chemistry Team

3. Update the following cross references within Appendix 5, "NUREG-0654 Cross Reference," requirement B.7 from:

   B.4.3.g, Radiological Control Teams

   To read:

   B.4.3.h, Radiological Control Teams

   B.4.3.i, Chemistry Teams

   To read:

   B.4.3.j, Chemistry Teams

Attachments/Enclosures:

Attachment 13.03-60A: HAR EP Figure B-2 (Revised)

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-61 – Site 03

Text of NRC RAI:

A. Section C.2, "Federal Government Support," (pages C-2, 3) of the HNP Emergency Plan refers to the National Response Plan (NRP), rather than the National Response Framework (NRF) which has replaced the NRP (see http://www.fema.gov/NRF). Provide the revision to the HNP Emergency Plan as a result of this change.

B. The HNP Emergency Plan did not identify specific resources the licensee would make available to support Federal response. Provide a summary of licensee resources that would be made available to support Federal response.

PGN RAI ID #: H-0234

PGN Response to NRC RAI:

A. The National Response Plan was replaced by the National Response Framework (NRF) effective March 22, 2008, following submittal of the Shearon Harris Nuclear Power Plant Units 2 and 3 Combined License Application in February 2008. Implementation of the NRF will be addressed in Sections A and C of Part 5 in a future revision of the COLA.

B. Section C.3, "HNP Site Support," discusses space, telephone communications, and administrative services that will be made available to support Federal response. Section C.4, "Other Support," lists laboratory, field/radiation monitoring, and dose assessment capabilities. Finally, Section I.1.1, "Evaluation of Plant Conditions," describes visual data displays, safety parameter displays, and radiation monitoring displays made available to the TSC and EOF.

Associated HAR COL Application Revisions:

The following changes will be made to the HAR Emergency Plan in a future amendment:

1. Revise the EP Acronym Section from:

   NRP National Response Plan

   To read:

   NRF National Response Framework

2. Revise the EP Introduction, Supporting Emergency Plans Section from:

   Emergency Plans which support this Plan are:

   - State of North Carolina Radiological Emergency Response Plan for Nuclear Power Facilities.
   - U.S. Nuclear Regulatory Commission, NUREG-0728, NRC Incident Response Plan.
   - National Response Plan.

To read:

Emergency Plans which support this Plan are:

- State of North Carolina Radiological Emergency Response Plan for Nuclear Power Facilities.
- U.S. Nuclear Regulatory Commission, NUREG-0728, NRC Incident Response Plan.
- National Response Framework.

3. Revise the first paragraph of EP Section A.6 from:

   The following subsections list the Federal Agencies that will provide emergency response support to HNP. The National Response Plan (NRP) (Reference D) describes the coordination of other Federal Agencies.

   To read:

   The following subsections list the Federal Agencies that will provide emergency response support to HNP. The National Response Framework (NRF) (Reference D) describes the coordination of other Federal Agencies.

4. Revise the first three sentences of the third paragraph of EP Section C.2 from:

   The U.S. Department of Homeland Security (DHS) and its subordinate agency FEMA are assigned lead responsibility for Federal offsite nuclear emergency planning and response (per Title 44 CFR 351 and the Homeland Security Act of 2002). DHS is also delegated responsibility for development and promulgation of the National Response Plan (NRP). The NRP assumes that states will be responsible for overall management of offsite emergency response.

   To read:

   The U.S. Department of Homeland Security (DHS) and its subordinate agency FEMA are assigned lead responsibility for Federal offsite nuclear emergency planning and response (per Title 44 CFR 351 and the Homeland Security Act of 2002). DHS is also delegated responsibility for development and promulgation of the National Response Framework (NRF). The NRF assumes that states will be responsible for overall management of offsite emergency response.

5. Revise Reference D of EP Appendix 2 from:

   C. Department of Homeland Security, "National Response Plan," December 2004.

   To read:

   C. Department of Homeland Security, "National Response Framework," January 2008.

6. Revise second to last entry of EP Appendix 4 from:

   National Response Plan

   To read:

   National Response Framework

Attachments/Enclosures:

None.

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-62 – Site 05

Text of NRC RAI:

A. Section E.2, "Notification of State, Local, and Federal Response Personnel," (pages E-1, 2) of the HNP Emergency Plan lists general information that may be included in follow-up messages. Section B, "Onsite Emergency Organization," of the HNP Emergency Plan discusses duties and responsibilities, including staff augmentation to provide necessary support within 60-75 minutes (page B-2). There is no statement regarding when full functional operation is required for the TSC or EOF. Provide activation requirements, including when the facilities are expected to achieve full functional operation.

PGN RAI ID #: H-0235

PGN Response to NRC RAI:

A. Section E.2, "Notification of State, Local, and Federal Response Personnel," Response:

As indicated in HNP Emergency Plan, Section B.2 and Table B-1, 30-45 minutes should provide enough time to make the appropriate staff available to augment the plant on-shift organization. The plant Emergency Response Organization (ERO) will continue to be augmented such that within 60-75 minutes after notification, additional personnel will be added to provide the necessary support. The goal for activating most of the positions that respond to the TSC and EOF is 45 minutes following declaration of the emergency requiring the use of these facilities. Certain positions may not be filled until 75 minutes following emergency declaration. Therefore, the ERO is expected to be operational 60 minutes after emergency declaration and "fully operational" 75 minutes following emergency declaration.

A definitive statement for full functional activation will be added to the HNP Emergency Plan in a future amendment.

Associated HAR COL Application Revisions:

The following changes will be made to HAR EP Section B.2 in a future amendment:

1. Revise the fourth paragraph of EP Section B.2 from:

   Progress Energy is committed to providing staffing to effectively mitigate the consequences of an accident and implement measures to protect personnel, the public, and the environment from adverse exposures to radioactive materials, resulting from an emergency which might occur at its nuclear facilities. Depending on the emergency at hand, personnel with required expertise will be contacted on a priority basis, as shown in Table B-1. Additional personnel will be available to provide communications; onsite and offsite radiological assessment; repair and corrective actions; and technical support within a short period of time. Depending on weather conditions, 30-45 minutes should provide enough time to make the appropriate staff available to augment the plant on-shift organization. The plant ERO will continue to be augmented such that within 60-75 minutes after notification,

additional personnel will be added to provide the necessary support. Additional personnel will continue to supplement the onsite ERO as necessary to meet the requirements of this Plan.

To read:

Progress Energy is committed to providing staffing to effectively mitigate the consequences of an accident and implement measures to protect personnel, the public, and the environment from adverse exposures to radioactive materials, resulting from an emergency which might occur at its nuclear facilities. Depending on the emergency at hand, personnel with required expertise will be contacted on a priority basis, as shown in Table B-1. Additional personnel will be available to provide communications; onsite and offsite radiological assessment; repair and corrective actions; and technical support within a short period of time. Depending on weather conditions, 30-45 minutes should provide enough time to make the appropriate staff available to augment the plant on-shift organization. The plant ERO will continue to be augmented such that within 60-75 minutes after notification, additional personnel will be added to provide the necessary support. Additional personnel will continue to supplement the onsite ERO as necessary to meet the requirements of this Plan. Therefore, the ERO is expected to be activated within approximately 60 minutes after emergency notification and fully operational 75 minutes following emergency declaration.

Attachments/Enclosures:

None.

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-63 – Site 06

Text of NRC RAI:

A. Sections N.2.1. a thru d, "Communications Drills," (pages N-2, 3) of the HNP Emergency Plan define required testing, however in Part 5 of the COL Application, Supplemental Information, the Emergency Plan—Cross Reference Document, "10 CFR 50 Appendix E Emergency Preparedness Cross Reference," (page 5 of 64), is inconsistent with the HNP Emergency Plan (i.e. Section IV.4.E.9.a references N.2.1.b for site to state/local governments but in the Emergency Plan it is N.2.1.a; IV.4.E.9.b references N.2.1.c for site to Federal emergency response organizations but in the Emergency Plan it is N.2.1.b (to NRC only); Section IV.4.E.9.c references N.2.1.d for communications among the control room, the onsite technical support center (TSC), and emergency operations facility (EOF); and the nuclear facility and principal state and local EOCs and field assessment teams but in the Emergency Plan the two items are referenced separately as N.2.1.c and N.2.1.d) Provide clarification of the cross-references between the HNP Emergency Plan and the Cross Reference Document.

B. Section F.4, "Communications with the Nuclear Regulatory Commission (NRC) and Other Federal Agencies," (page F-4) of the HNP Emergency Plan states that communications with other Federal emergency support organizations is made using commercial telephone lines. Specific Federal emergency response organizations are not listed nor is annual testing mentioned. Provide additional information of HNP interface and communications with Federal emergency response organizations other than the NRC including communication systems testing schedule.

PGN RAI ID #: H-0236

PGN Response to NRC RAI:

A. Part 5 of the COL Application, Supplemental Information, the Emergency Plan—Cross Reference Document, "10 CFR 50 Appendix E Emergency Preparedness Cross Reference," (page 5 of 64), is inconsistent with the HNP Emergency Plan.

   Section IV.4.E.9.a references N.2.1.b for site to state/local governments. This is incorrect and will be corrected to reference N.2.1.a in a future amendment of the supplemental cross reference document.

   Section IV.4.E.9.b references N.2.1.c for site to Federal emergency response organizations. This is incorrect and will be corrected to reference N.2.1.b in a future amendment of the supplemental cross reference document.

   Section IV.4.E.9.c references N.2.1.d for communications among the control room, the onsite technical support center (TSC), and emergency operations facility (EOF). This is correct, however the second portion of Section IV.4.E.9.c also references the principal state and local EOCs and field assessment teams but in the supplemental cross reference document (EPLAN column), only the reference to N.2.1.d is listed. This is incorrect and will

be corrected to list both N.2.1.d and N.2.1.c in a future amendment of the supplemental cross reference document.

B. Section F.4, "Communications with the Nuclear Regulatory Commission (NRC) and Other Federal Agencies," (page F-4) of the HNP Emergency Plan correctly states that communications with other Federal emergency support organizations is made using commercial telephone lines. As stated in Section C.2, Federal Government Support, of the HNP Emergency Plan, "In addition to coordination with State/county governmental entities in an emergency situation, HNP may require assistance from Federal agencies in the areas of communications, radiological monitoring and laboratory analysis, transportation, and disaster relief." These organizations include DHS/FEMA, the Department of Energy (DOE), and the Environmental Protection Agency (EPA).

   As HNP interfaces with these organizations using commercial telephone lines, periodic testing is required. The HNP Emergency Plan submitted as part of the COL Application addresses communication drills in Section N.2.1, Communication Drills; however it currently does not address the requirement for testing communications with Federal emergency response organizations. An additional item will be added to Section N.2.1 to address this requirement per NUREG-0654, N.2.a.

Associated HAR COL Application Revisions:

The following changes will be made to the Part 5, Emergency Plan - Cross Reference Document in a future amendment:

1. Revise the cross reference within the Part 5, Emergency Plan - Cross Reference Document, Section IV.4.E.9.a from:

   N.2.1.b

   To read:

   N.2.1.a

2. Revise the cross reference within the Part 5, Emergency Plan - Cross Reference Document, Section IV.4.E.9.b from:

   N.2.1.c

   To read:

   N.2.1.b

3. Revise the cross reference within the Part 5, Emergency Plan - Cross Reference Document, Section IV.4.E.9.c from:

   N.2.1.d

   To read:

   N.2.1.d & N.2.1.c

The following change will be made to Section N.2.1 of the HAR Emergency Plan in a future amendment:

1. Update Section N.2.1, Communication Drills, of the HAR EP to include the following additional item:
   e. Communications with Federal emergency response organizations and States within the ingestion pathway shall be tested quarterly.

Attachments/Enclosures:

None.

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-64 – Site 08

Text of NRC RAI:

A. Section A.1, "Harris Nuclear Plant," of the HNP Emergency Plan lists monitoring and control of radiation exposures among the emergency related responsibilities of HNP, however, it is not clear who in the Emergency Response Organization (ERO) is responsible for personnel monitoring during the course of the emergency or what resources will be available for personnel monitoring. Provide clarification as to who in the ERO is responsible for personnel monitoring during the course of the emergency and what resources will be available for personnel monitoring.

B. Section H.4, "Emergency Equipment," (page H-5), Section I, "Accident Assessment," (page I-1), Section I.1 "Plant Parameters," (page I-1), Section I.1.1, "Evaluation of Plant Conditions," (page I-1), and Annex 2, Section A2-4, "Plant Monitoring and Data Handling Systems," (page Annex 2-6) of the HNP Emergency Plan define the display of Units 2 & 3 plant parameter information at HNP. The systems described have the functionality of a Safety Parameter Display System (SPDS), however it is not clear if the display system is capable of data trends as well as current and historical data. Specify whether or not each of the various display systems described in Annex A2-4.1 through A2-4.6 is capable of displaying data trends as well as current and historical data.

C. Section H, "Emergency Facilities and Equipment," (page H-1) of the HNP Emergency Plan provides for an onsite Technical Support Center (TSC) for each unit. However, the HNP Emergency Plan does not address transfer of TSC functions in the event that the TSC becomes uninhabitable. Discuss the transfer of TSC function in the event that the TSC should become uninhabitable.

D. Annex 2, Section A2-3.2, "Technical Support Center [TSC]," (page Annex 2-4) of the HNP Emergency Plan states that the TSC is provided with reliable power for habitability systems and with emergency lighting. The plan also states that equipment in the TSC is not safety related and that it is not redundant. In addition, the plan does not address the reliability of the power supplies relative to the TSC function, and does not address reliability of the systems providing data to the TSC. Discuss the reliability of the power supplied to the TSC relative to performance of the TSC function as well as the reliability of the systems supplying data to the TSC.

E. Annex 2, Section A.2-4.4, "Emergency Response Data System (ERDS)," (page Annex 2-7) of the HNP Emergency Plan states that the ERDS transmits critical Units 2 & 3 plant variables to the NRC via a dedicated line. The plan does not provide a list of variables or provide any details related to the communications protocol (i.e., transmission rates, encoding, etc.). Provide a list of variable and any details related to the communications.

F. Section H.1.4, "Emergency Operations Facility (EOF)," (page H-2) of the HNP Emergency Plan states that an EOF is established and is within 10 miles of the site. The characteristics, functions, and emergency equipment and supplies of the EOF are consistent with requirements and guidance except that the area of the EOF and the maximum number of persons in Section H.1.4 a.1 (4800 sq. ft. for 70 people) are inconsistent with the guidance of NUREG-0696 (i.e.,

75 sq. ft. per person for 70 people = 5250 sq. ft.). Provide an explanation of the inconsistency of the Harris EOF with the guidance of "75 sq. ft. per person."

G. Section E.1, "Notification of Progress Energy Personnel," (page E-1); Tables E-1 through E-4 (pages E-5 to 8); and Section H.2, "Activation and Staffing," (page H-4) of the HNP Emergency Plan provide for timely activation and staffing of emergency facilities and centers. Provide a description of the process for the activation and staffing of the facilities and centers described in the HNP Emergency Plan.

H. Section I.5, "Seismic and Hydrological Data," (page I-3) and Section I.6, "Meteorological Instrumentation," (page I-3) of the HNP Emergency Plan cover access to seismic and meteorological data. Section H.3.3, "Laboratory Facilities," (page H-4) of the HNP Emergency Plan covers offsite emergency laboratory facilities. However, sources of radiological monitoring equipment and how site meteorological data would be processed to be representative of conditions at the site are not described. a) Describe sources of radiological monitoring equipment that would be available should the plant radiological monitoring equipment be inoperable or unavailable and b) Discuss how site meteorological data would be processed to be representative of conditions at the site.

I. Section H.3.1, "Meteorological Instrumentation," (page H-4) and Section I.6, "Meteorological Instrumentation," (page I-3) of the HNP Emergency Plan discuss meteorological instrumentation. More detailed information about the system is included in the Final Safety Analysis Report (FSAR), Section 2.3.3, "On-Site Meteorological Measurements Program," (page 2.3-1). Section H.3.1 covers distribution of the meteorological data, and Section I.6 covers acquisition of meteorological data from offsite sources. There is no mention of or reference to procedures related to obtaining and processing meteorological data from backup sources. Describe the process and discuss whether procedures exist related to obtaining and processing meteorological data from backup sources and, if so, describe, in general terms, the contents of the procedures.

J. Section H.1.3, "Operations Support Centers (OSC)," (page H-2) of the HNP Emergency Plan establishes an OSC for each unit. Table H-1, "Typical Emergency Supplies Available For Emergency Facilities," (page H-6) of the HNP Emergency Plan lists a typical emergency equipment supplies for an OSC. Appendix 4, "List of Emergency Plan Supportive Documents," listed implementing procedures, however the procedures were not available for review. Provide a description of the process for establishing and maintaining emergency equipment inventory, including operational checks and availability of replacement equipment.

PGN RAI ID #: H-0237

PGN Response to NRC RAI:

A. The Site Emergency Coordinator (SEC) is responsible for onsite personnel monitoring and the Emergency Response Manager (ERM) is responsible for offsite personnel monitoring. As described in Section K.1, Emergency Exposures, of the HNP Emergency Plan, the SEC (for onsite personnel) and the ERM (for offsite personnel) authorize the appropriate exposure limits. Emergency workers also have responsibility for monitoring their own exposure. As stated in Section K.2, Exposure Records for Emergency Workers, emergency workers will receive self reading pocket dosimeters (SRPDs) or equivalent and thermoluminescent dosimeter (TLD) badges. Dose records are maintained by the Radiological Control Coordinator, in accordance with plant emergency procedures. TLDs are read at the HE&EC, which have 24-hour staffing capability.

B. The systems described are an integrated collection of systems as described in Chapter 7 and Chapter 18 of the Design Control Document (DCD). The Data Display and Processing System (DDS) (A2-4.2) is the primary display system used in the CR and Sections 18.8.2.1 and 18.8.2.5 of the DCD describe the requirement to display trends; this system has extensive trending capability. Data from the other listed systems QDPS (A2-4.3) and RMS (A2-4.5) are displayed via the DDS with trending. The ERDS (A2-4.4) is not applicable as it is a data link to the NRC and does not itself display data to the plant staff. The collection of functions described in section A2-4.6 may or may not have trending capability depending on the equipment design.

C. In the event the TSC becomes uninhabitable, the TSC command and control function is transferred back to the Control Room of the affected Unit, and the other TSC support functions are transferred to an alternate location designated by the Site Emergency Coordinator (SEC).

D. The TSC is provided with reliable power and backup power supplies. Lighting is powered by the normal and backup electrical supply system. An emergency battery operated lighting system is installed. Power for vital information systems is provided by reliable power supplies including a battery backed Uninterruptible Power Supply (UPS) system. These reliable power supplies also support the systems supplying data to the TSC including source term and meteorological data and technical data displays to allow TSC personnel to perform detailed analysis and diagnosis of abnormal plant conditions, including assessment of any significant release of radioactivity to the environment.

   This information will be added to Annex 2, Section A2-3.2, "Technical Support Center [TSC]," of the HNP Emergency Plan in a future amendment.

E. Section A.2-4.4 states that the "critical data" will be transmitted in accordance with NUREG-1394, Revision 1, "Emergency Response Data System (ERDS) Implementation". NUREG-1394 lists the various plant parameters that are required to be transmitted to the NRC and the prescribed protocols. Data is sent as requested by the NRC end of the ERDS system. The specific list of parameters will be developed for the AP1000 following detailed design and incorporated via the Data Point Library (DPL) and the Plant Attribute Library (PAL). The details of the DPL and PAL are above the level of detail customarily provided in the Emergency Plan. While a detailed list of parameters will be unavailable until detail design completion for Units 2 & 3, the HAR Unit 2 & 3 ERDS will be implemented in accordance with the requirements of NUREG-1394 and compliance with the ERDS requirements is assured. This will be validated via testing of the ERDS during ITAAC 3.0 (ITAAC Table 3.8-1).

F. Section H.1.4, "Emergency Operations Facility (EOF)," (page H-2) of the HNP Emergency Plan states, under the characteristics of the EOF, that the size is *approximately* 4800 square feet of space for *approximately* 70 persons including 14 NRC personnel. Even though these are approximations, the use of 70 persons will be reduced to 60 to stay compliant with the guidance of NUREG-0696 (i.e., 75 sq. ft. per person).

G. Minimum staffing is provided in Table B-1, Minimum Staffing Requirements for Emergencies, of the HNP Emergency Plan. Descriptions detailing the process for the activation and staffing of the facilities and centers described in the HNP Emergency Plan are provided in the following Plant Emergency Procedures.

- PEP-240, Activation and Operation of the Technical Support Center
- PEP-260, Activation and Operation of the Operations Support Center
- PEP-270, Activation and Operation of the Emergency Operations Facility
- PEP-250, Activation and Operation of the Joint Information Center

The following is a summary of activation and staffing for the emergency response facilities including the Technical Support Center (TSC), Operations Support Center (OSC), Emergency Operations Facility (EOF), and Joint Information Center (JIC) taken from the actual Plant Emergency Procedures listed above.

Technical Support Center (TSC)

The initiating conditions to activate the TSC include:

- An Alert or higher classification has been declared
- A decision has been made to activate the TSC.

Prior to activation, the SEC-CR may assign support functions to the TSC as deemed necessary to relieve on-shift personnel. The TSC must meet minimum staffing requirements for activation prior to the SEC-TSC relieving the SEC-CR of his portion of emergency management responsibilities. Both the TSC and EOF will need to activate together. The activation time for minimum staffing positions in the TSC is 60 minutes from the time the notification was initiated. If a position with an augmentation time requirement is not filled, a supervisory position may fulfill the responsibilities provided they are trained to perform the assigned activities of that position. For example: the Communications Director could perform the duties of the Emergency Communicator - NRC.

Operations Support Center (OSC)

The initiating conditions to activate the OSC include:

- An Alert or higher classification has been declared
- A decision has been made to activate the OSC.

All functional capabilities do not need to be staffed for the OSC to be activated if the Emergency Repair Director (ERD) determines missing functions are not presently required to adequately deal with the situation. If a subordinate position with an augmentation time requirement is not filled, the supervisory position may fulfill the responsibilities provided they are trained to perform the activities.

Emergency Operations Facility (EOF)

The initiating conditions to activate the EOF include:

- An Alert or higher classification has been declared
- A decision has been made to activate the EOF.

Prior to activation, the SEC-CR may assign support functions to the EOF as deemed necessary to relieve on-shift personnel. The EOF must meet minimum staffing requirements for activation prior to the ERM relieving the SEC-CR of his portion of emergency management responsibilities. Both the TSC and EOF will need to activate together. The

activation time for minimum staffing positions in the EOF is 60 minutes from the time the notification was initiated. If a position with an augmentation time requirement is not filled, a supervisory position may fulfill the responsibilities provided they are trained to perform the assigned activities of that position. For example: the Communications Manager could perform the duties of the State and County Communicator.

Joint Information Center (JIC)

The initiating conditions to activate the JIC include:

- An Alert or higher classification has been declared
- A decision has been made to activate the JIC.

The Administrative and Logistics Manager (ALM) in the Emergency Operations Facility (EOF) in coordination with the JIC Administrative Coordinator is responsible for arranging relief schedules for the JIC Staff. The activation time for minimum staffing positions in the JIC is 120 minutes from the time the notification was initiated. If a subordinate position with an augmentation time requirement is not filled, the supervisory position may fulfill the responsibilities provided they are trained to perform the activities.

The Joint Information Center is an Emergency Response Facility for the Harris Plant. It is staffed by Progress Energy, the State of North Carolina, Chatham, Harnett, Lee and Wake Counties, NRC and FEMA. The Company Spokesperson serves as the facilitator during news media briefings with Progress Energy, the State, Counties, NRC and FEMA. Minimum staffing of the JIC should be considered if personnel are present who can adequately perform the needed functions. Minimum staffing positions in the JIC are the Company Spokesperson, JIC Director and Technical Specialist.

All functional capabilities need not be staffed for the JIC to be activated, if the Company Spokesperson determines that the missing functions are not presently required to adequately deal with the situation.

H. a) In the event radiological monitoring equipment is inoperable or unavailable at the Harris Nuclear Plant (HNP), Progress Energy uses a Central Calibration Facility for portable radiation monitoring equipment, as described in HPS-NGGC-0009, Operation of Radiation/Contamination Survey Instruments/Equipment, and supporting procedures. Therefore, there is a surplus of equipment in the system that is available for use from the Brunswick Nuclear Plant, Robinson Nuclear Plant, Crystal River 3 Nuclear Plant, or the Harris E&E Center. The site can also request equipment and resources through letter of agreement agencies which are described in the emergency plan, including INPO which can provide assistance in locating replacement equipment, in accordance with the INPO Emergency Response Plan. Progress Energy can request equipment assistance through the CDSV Nuclear Exchange Program which provides a mutual exchange of information, resources, and services between Progress, Duke Energy, South Carolina Electric & Gas Company, and Dominion Virginia Power. The NRC and outside vendors can also be consulted to coordinate equipment needs. In addition, the site may request and coordinate additional equipment and resources through the State Division of Emergency Management.

b) If onsite meteorological data is unavailable, PEP-340, Dose Assessment for the Main Control Room, and EMG-NGGC-0002, Off-Site Dose Assessment, provide instructions for obtaining meteorological information from backup sources including contact information for

contract meteorological service providers and the National Weather Service (NWS). EPL-001, Emergency Phone List, contains phone numbers for the NWS and weather contractors (Murray & Trettel and Weather Services International). EPL-001 is a controlled document, and the phone numbers are validated on a quarterly basis. PEP-340 and EMG-NGGC-0002 contain an attachment that lists standard weather report symbols, model classes and intensity ratings used by the NWS and contract weather agencies. The minimum met data required for dose projection model is type, date, time, wind speed, direction and stability class. (An additional attachment in PEP-340 describes an alternate method for determining stability class.) Weather reports provided by the NWS or contract agency do not require further processing. The PEP-340 attachment information, along with the phone contact, is used to clarify any questions regarding weather data and conditions.

In the unlikely event the site's weather service, NWS, and contract vendor service are all unavailable, then the pre-defined, non-site specific meteorological data programmed into the RASCAL software, as justified in NUREG-1887, RASCAL 3.0.5: Description of Models and Methods, would be used to perform dose assessment per procedure.

Specific procedural guidance for obtaining met data can be found in:

- PEP-340, Dose Assessment for the Main Control Room, Sections 4.1.6 and 4.2.6, and Attachment 1
- EMG-NGGC-0002, Off-Site Dose Assessment, Section 9.10 and Attachment 3.

I. In the event that onsite meteorological data is unavailable, PEP-340, Dose Assessment for the Main Control Room, and EMG-NGGC-0002, Off-Site Dose Assessment, provide instructions for obtaining meteorological information from backup sources including contact information for contract meteorological service providers and the National Weather Service (NWS). EPL-001, Emergency Phone List, contains phone numbers for the NWS and weather contractors (Murray & Trettel and Weather Services International). EPL-001 is a controlled document, and the phone numbers are validated on a quarterly basis. PEP-340 and EMG-NGGC-0002 contain an attachment that lists standard weather report symbols, model classes and intensity ratings used by the NWS and contract weather agencies. Weather reports provided by the NWS or contract agency do not require further processing. However, the PEP-340 attachment information, along with the phone contact, is used to clarify any questions regarding weather data and conditions.

   In the unlikely event the site's weather service, NWS, and contract vendor service are all unavailable, then the pre-defined, non-site specific meteorological data programmed into the RASCAL software, as justified in NUREG-1887, RASCAL 3.0.5: Description of Models and Methods, would be used to perform dose assessment per procedure.

   Specific procedural guidance for obtaining met data can be found in:

   - PEP-340, Dose Assessment for the Main Control Room, Sections 4.1.6 and 4.2.6, and Attachment 1
   - EMG-NGGC-0002, Off-Site Dose Assessment, Section 9.10 and Attachment 3.

J. The process for conducting inventories of emergency equipment and maintaining equipment to support emergency preparedness is described in [Emergency Program Maintenance] EPM-420, Emergency Equipment Inventory. EPM-420 includes instructions

for performance of equipment operability checks and replacing emergency equipment, as needed.

The Supervisor - Emergency Preparedness (EP) is responsible for:

- Ensuring that inventories in the emergency response facilities are conducted each quarter and after each use;
- Reviewing emergency equipment inventory checklists to ensure that supplies and equipment in the various kits are sufficient to support activation of the emergency response facilities;
- Ensuring actions required to correct conditions or discrepancies are performed; and
- Ensuring that completed emergency equipment inventory checklists are filed and maintained, in accordance with EPM-100, EP Program Administration.

In accordance with EPM-420, the Superintendents of Radiation Protection, Maintenance, and Environmental & Chemistry, and the Fire Protection Department are responsible for correcting discrepancies identified during performance of equipment inventories; documenting actions taken or initiated to replenish contents or correct discrepancies; and forwarding completed checklists to the Supervisor – EP.

EP, Radiation Protection, Maintenance, Environmental & Chemistry, and Fire Protection conduct quarterly equipment inventories using applicable checklists listed in Attachment 1 of EPM-420. The responsible department representative records the condition of the contents, missing items, and other discrepancies/additions, if needed, on the checklists; lists action taken to replenish contents or correct discrepancies; and if applicable, records the new seal number on the inventory checklist. The representative makes a copy of the completed checklist; places a copy outside the cabinet and seals the cabinet or places a copy within the room on enclosed area; and routes the original checklist to EP.

There are three (3) Options for physically completing an inventory:

Option 1:
The inventory can be signed off as complete without opening the kit if: (1) there is an intact seal on the kit, and the seal number is the same as documented on the checklist; (2) there are no items that need to be checked or verified; (3) calibration dates, document revision numbers and expiration dates don't need to be verified as long as they are current and noted on the checklist; (4) document the inventory completing a new checklist (record seal number; complete a new checklist using data from old checklist; initial each item; and sign/date form).

Option 2:
(1) If there is an intact seal on the kit, the seal number is the same as documented on the checklist, and there are items that need to be checked or verified in the kit, then the inventory can be signed off as complete after those items are checked (it is not necessary to inventory everything in the kit); (2) kit should be opened and items checked that need to be checked; (3) complete and document the inventory by installing a new seal and completing a new checklist; record the seal number; complete the checklist using information from the old form, where applicable; initial each item; and sign/date form.

Option 3:
(1) If a kit has a broken seal, or the kit is opened and left unattended, then a complete inventory is required; (2) if a kit is opened and left unattended during a drill, then a complete inventory is required; (3) complete/document the inventory by installing a new seal and

completing a new checklist; record the seal number; complete a new checklist; sign/date form.

Specific Inventories

Maps/Lists/Copies of Procedures: All maps, lists, and copies of procedures shall be checked to see that they are current, in good order and replaced, if necessary. The revision number of any procedure shall be noted on the applicable checklist.

First Aid Kits: First aid stations/kits located throughout the plant are to be inventoried, inspected, replaced, and replenished and/or resterilized as necessary, at least twice each year and after each use. First Aid stations/kits are maintained in accordance with procedure ORT-3002, First Aid Trauma Station Inspection Quarterly Interval Modes: All, which requires a quarterly inspection and on an as-needed basis. This does not apply to the small first aid kits. If the emergency kit contains a small first aid kit, the only dates that need to be checked are those items that have expiration dates.

Air Samplers: Each air sampler serial number and calibration due date shall be checked, recorded, and maintained current. Results of these checks shall be noted on the appropriate inventory checklist.

Decontamination Supplies and Solutions: Decontamination supplies subject to deterioration, such as chemical or water solutions, shall be replaced at least every two years. Any bottles or containers should be checked for leakage and replaced if necessary.

Rubber/Latex Equipment: Rubber/latex equipment should be checked for cracking, and it should be stretched (if practical) to check for soundness. Any defective equipment shall be replaced. The condition of the equipment should be noted on the appropriate checklist.

Clothing: Any clothing (i.e., PCs or coveralls) which appears to be ripped or torn shall be replaced. The condition of the equipment should be noted on the appropriate checklist.

Mechanical Equipment: Moving parts of any mechanical equipment should be checked to see if they move freely, and defective equipment shall be replaced.

Survey Instruments: Survey instrument serial numbers and calibration due dates shall be checked, recorded, and maintained current. Batteries shall also be checked to determine if they are serviceable; and results documented on the inventory checklist.

Portable Radios and Base Stations: Portable radios/base stations shall be operability checked, and problems should be reported to EP. Portable radios in the Alternate Fire Brigade Staging Area shall be operability checked per ORT-3001, Fire Equipment Inspection Monthly Interval Modes; all which requires equipment to be maintained in a state of readiness on a monthly interval.

Self-Contained Breathing Apparatus: SCBA used for emergencies shall be checked on a monthly basis per the procedure outlined in HPP-630, Respiratory Protection.

Self-Reading Pocket Dosimeters (SRPD)/Dosimeter Chargers: SRPDs shall be performance tested in accordance with NGGS-DOS-0105, Pocket Ion Chamber Calibration which requires performance testing prior to new equipment being put into service; every six months while in service; and after the SRPDs are damaged or suspected of malfunction.

Thermoluminescent Dosimeters (TLDs): Emergency TLDs shall be replaced at each monitoring period changeout and after each use in a declared emergency.

Batteries: Equipment containing non-rechargeable batteries that cannot be tested using a "battery test" feature of the equipment shall be replaced when found defective. Batteries in equipment with a "battery test" feature shall be tested using that feature when equipment is inventoried. Flashlight, lantern, and dosimeter charger batteries shall be replaced every 18 months.

Drawings and documents in emergency response facilities shall be the most current controlled copies and shall be maintained in accordance with Document Services procedures.

The Selective Signaling System, Emergency Telecommunications System (ETS) and radio communications are tested in accordance with EPM-410, Communication and Facility Performance Tests.

There are four (4) environmental monitoring kits which should be maintained as ready for use.

Discrepancies identified in emergency kits are resolved in a timely manner to ensure that the kits are maintained in a ready status at all times. Discrepancies should be corrected when identified, or actions initiated to correct them. Personnel finding discrepancies shall take appropriate actions to correct them. For example, if an item is missing or needs to be replaced, and the item is available at the warehouse, the individual is directed to get the needed item from the warehouse and replace it. If another organization needs to provide the item, the individual should contact the organization and make appropriate arrangements. If assistance is needed to resolve a discrepancy or identifying an organization, the individual should contact Emergency Preparedness.

Associated HAR COL Application Revisions:

The following changes will be made to the HAR Emergency Plan in a future amendment:

1. Revise item 7. under subsection a. Characteristics of Annex 2, Section A2-3.2, "Technical Support Center [TSC]," from:

   7. Reliable power for habitability systems and battery pack emergency lighting are provided.

   To read:

   7. Reliable power for habitability systems and battery pack emergency lighting are provided. Power for vital information systems is provided by reliable power supplies including a battery backed Uninterruptible Power Supply (UPS) system.

2. Revise Section H.1.4.a.1 from:

   1. Approximately 4800 square feet of space for approximately 70 persons including 14 NRC personnel.

To read:

1. Approximately 4800 square feet of space for approximately 60 persons including 14 NRC personnel.

Attachments/Enclosures:

None.

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-65 – Site 09

Text of NRC RAI:

A. Section I.3, "Radiological Monitoring," (page I-2) of the HNP Emergency Plan states that a computer program based on technical information in NUREG-1741 is relied upon for assessing the offsite consequences of a release. The computer program, which can use default or actual information on source terms and meteorological conditions, has the attributes of both Class A and Class B meteorological models discussed in NUREG-0654, Appendix 2. However, the technical information related to source terms contained in NUREG-1741 is only for current generation reactors; it does not cover AP1000 reactors. Further, the HNP Emergency Plan does not address backup methods for assessing offsite consequences should the computer program not be available. a) Describe, in general terms, what modifications, if any, are required to make the technical bases in NUREG-1741 applicable to consequence assessments for the AP1000 and b) describe, in general terms how HNP would assess offsite consequences of a release of radioactive material should the dose assessment computer program not be available.

A.1 – Section I.4 "Dose Projections," (page I-2) of the HNP Emergency Plan indicates that the applicant relies upon a dose projection computer program for establishing the relationship between monitor readings and onsite and offsite exposures as a function of meteorological conditions. There is no mention of a backup methodology. a) Describe, in general terms, methods that would be used to estimate onsite and offsite exposures and contamination from monitoring readings accounting for current meteorological conditions and b) Identify where these methods are described in procedures, and c) Discuss what training the dose assessment staff has in use of these methods.

B. Section I.1.1 "Evaluation of Plant Conditions," (page I-1) of the HNP Emergency Plan applies to the HNP Unit 1 but not Units 2 and 3. There is no HNP Emergency Plan section corresponding to Section I.1.1 that applies to Units 2 and 3. Section 7.5, "Safety-Related Display Information," (page 7.5-2 to 4) of the Design Control Document (DCD) discusses type A through E variables for the AP1000 in detail, however, the DCD is referenced in the Final Safety Analysis Report (FSAR) but not in the HNP Emergency Plan. Provide a discussion of the instrumentation to measure and record key plant parameters and to display the information in the control rooms for Units 2 and 3.

C. Section I.6, "Meteorological Instrumentation," (page I-3) of the HNP Emergency Plan states that in the event of unavailability of data from the HNP meteorological system, the primary source of meteorological data for the site is from a meteorological contractor who will provide representative data for the site based on their evaluation of data received from the National Weather Service and other sources of information. This section also states that meteorological data are available directly from the National Weather Service should information not be available from the meteorological contractor. The HNP Emergency Plan does not identify procedures for contacting the meteorological contractor or the National Weather Service, or for processing data that is received from the National Weather Service. a) Describe procedures for obtaining meteorological data from the meteorological contractor and the National Weather

Service and for processing data obtained from the National Weather Service and b) If such procedures exist, identify specifically where they may be found.

C.1 Section H.3.1, "Meteorological Instrumentation," (page H-4) and Section I-6, "Meteorological Instrumentation," (page I.3) of the HNP Emergency Plan describes, in general, the HNP meteorological system and in detail in Section 2.3.3, "On-Site Meteorological Measurements Program," (page 2.3-25) of the Final Safety Analysis Report (FSAR). The HNP Emergency Plan does not contain a reference to any procedure for obtaining the meteorological data from offsite sources. Describe the procedure for obtaining meteorological data from offsite sources. If such a procedure exists, identify its location.

D. Section I.8, "Environmental Monitoring," (page I-4) of the HNP Emergency Plan refers to "appropriate implementing procedures," however, implementing procedures are neither identified in Appendix 4, "List of Emergency Plan Supportive Documents," nor are they described, even in a general sense, in Section 1.8. Describe procedures specifically related to field monitoring within the plume exposure emergency planning zone (EPZ). If such procures exist, identify where they may be found.

E. Section B, "Onsite Emergency Organization," Table B-1, "Minimum Staffing Requirements for Emergencies," (pages B-15, 16) of the HNP Emergency Plan provides for field monitoring teams however the number of teams is not clear. Clarify the actual number of field teams responding within the 30 to 45 minutes time frame and the 60 to 75 minutes time frame after activation of the Emergency Operations Facility.

F. Section I.7.1, "Field Monitoring Equipment," (page I-4) of the HNP Emergency Plan specifically addresses the capability to detect and measure radioiodine concentrations in air in the plume exposure emergency planning zone (EPZ). The HNP Emergency Plan states that field monitoring equipment meets this criterion with respect to detection limits. However, the HNP Emergency Plan does not address the interference issue. Confirm that the iodine detection limits stated in the HNP Emergency Plan are not affected by interference from noble gases and background radiation.

PGN RAI ID #: H-0238

PGN Response to NRC RAI:

A. Section I.3, "Dose Projections," Response:

a) Progress Energy uses the Radiological Assessment System for Consequence Analysis (RASCAL) for performing off-site dose assessment. RASCAL and supporting documents such as NUREG-1887, RASCAL 3.0.5: Description of Models and Methods (NUREG-1887 supersedes the information in NUREG-1741, "RASCAL 3.0: Description of Models and Methods, "2001) will need to be updated for sites that build an AP-1000 reactor. RASCAL is the dose assessment software designed for use by the NRC staff. Prior to licensing the AP-1000 plants RASCAL will be updated per Athey Consulting Firm which is the owner for the RASCAL software. Progress Energy will incorporate the RASCAL version updated for the AP-1000 or similar software approved by the NRC.

b) PEP-340, Dose Assessment, is the procedure Progress Energy will use to perform offsite dose projections prior to activation of the Emergency Operations Facility (EOF). The Main Control Room will use PEP-340 to generate the dose projection(s). EMG-NGGC-0002, Off-Site Dose Assessment, is the procedure Progress Energy uses to perform offsite dose projections after the EOF is activated or assumes the responsibility for offsite dose assessment. Both PEP-340 and EMG-NGGC-0002 direct the user to perform the dose

assessment using RASCAL. Total loss of computer assessment capability is of low probability, and therefore an independent backup method is not procedurally scripted. However, total loss of the Progress Energy computer infrastructure is a possibility. Therefore RASCAL is loaded on the hard drive of the Company computers and will continue to operate with a loss of the computer infrastructure. Company laptops are also available to operate with battery power during a loss of offsite power. Therefore, no additional backup method to perform dose assessment is required at this time. No scenarios exist where the user will not have access to a computer capable of running the RASCAL software.

A.1 Section I.4 "Dose Projections," Response:

a. No backup methodology is required to estimate onsite and offsite exposures and contamination from monitoring readings accounting for current meteorological conditions for performing dose projections. The likelihood of RASCAL becoming unavailable is not credible. Therefore, the primary RASCAL Dose Projection computer program is available at all times. See response to RAI 9.A.b above.

b. No backup methodology for dose projection is described in procedures since the primary computer program for performing dose projections is available. See response to RAI 9.A.b above.

c. There is no training required for backup dose assessment methodologies since the primary dose projection computer program is available, and the likelihood of RASCAL being unavailable is not credible. See response to RAI 9.A.b above.

B. Section I.1.1 "Evaluation of Plant Conditions," Response:

Section I.1, including Section I.1.1, do in fact apply to HNP Units 2 & 3. Additional Plant specific information is contained in Annex 1 for Unit 1 and Annex 2 for Units 2 & 3. The variables listed in Chapter 7.5 of the DCD are described as being displayed on the DDS or PMS (QDPS) in the Main Control Room. Annex 2, Section 4 then describes these systems, including DDS (Safety Parameter Display data, Radiation Monitoring Data,) and QDPS (Process Data) in the Emergency Plan context.

C. Section 1.6, "Meteorological Instrumentation," Response:

a. PEP-340, Dose Assessment and EMG-NGGC-0002, Off-Site Dose Assessment direct the user to obtain meteorological data from the appropriate weather source and then lists contractor names and the National Weather Service as an option. The Harris Plant has the phone numbers for the National Weather Service and weather contractors listed in EPL-001, Emergency Phone List – Harris Plant for ease of dialing and connecting to the desired party. EPL-001 is a controlled document and the phone numbers validated on a quarterly frequency. PEP-340 and EMG-NGGC-0002 also contain an attachment that lists standard weather report symbols, model classes and intensity ratings used by the National Weather Service and contract weather agencies. Weather reports provided by the National Weather Service or contract agency do not require further processing. However, the PEP-340 attachment along with phone contact is used to clarify any questions regarding weather data or conditions.

   In the unlikely event the station weather service, National Weather Service and contract vendor service are all unavailable then the pre-defined, non-site specific meteorological

data programmed into the RASCAL software as justified in NUREG-1887, RASCAL 3.0.5: Description of Models and Methods would be used to perform offsite dose assessment per procedure.

b. Specific procedure guidance for obtaining met data can be found in:
   - PEP-340, Dose Assessment, Section 5 and Attachment 4
   - EMG-NGGC-0002, Off-Site Dose Assessment, Section 9.10 and Attachment 3

C.1 Section H.3.1, "Meteorological Instrumentation," Response:

PEP-340, Dose Assessment and EMG-NGGC-0002, Off-Site Dose Assessment direct the user to obtain meteorological data from the appropriate weather source and then lists contractor names and the National Weather Service as an option. The Harris Plant has the phone numbers for the National Weather Service and weather contractors listed in EPL-001, Emergency Phone List – Harris Plant for ease of dialing and connecting to the desired party. EPL-001 is a controlled document and the phone numbers validated on a quarterly frequency. PEP-340 and EMG-NGGC-0002 also contain an attachment that lists standard weather report symbols, model classes and intensity ratings used by the National Weather Service and contract weather agencies. Weather reports provided by the National Weather Service or contract agency do not require further processing. However, the PEP-340 attachment along with phone contact is used to clarify any questions regarding weather data or conditions.

In the unlikely event the station weather service, National Weather Service and contract vendor service are all unavailable then the pre-defined, non-site specific meteorological data programmed into the RASCAL software as justified in NUREG-1887, RASCAL 3.0.5: Description of Models and Methods would be used to perform offsite dose assessment per procedure.

Specific procedure guidance for obtaining met data can be found in:

- PEP-340, Dose Assessment Section 5 and Attachment 4
- EMG-NGGC-0002, Off-Site Dose Assessment, Section 9.10 and Attachment 3

D. Section I.8, "Environmental Monitoring," Response:

PEP-330, Radiological Consequences, describes the environmental monitoring process during an emergency and responsibilities/tasks of the Environmental Monitoring Teams. Information in the procedure includes instructions on team exposure controls; describes use of the Global Positioning System (GPS) unit while in the field; operation of air sampling equipment; obtaining field estimates of airborne I-131 activity; instructions for measurement of ambient radiation readings; placement of emergency environmental TLDs; labeling and collection of environmental samples; transport of samples; coordinates for potential environmental monitoring sites and directions to locations for initial near-site emergency environmental monitoring; instructions for obtaining/logging data; and coordination of environmental monitoring activities with the Environmental Field Coordinator in the EOF.

PEP-270, Activation and Operation of the Emergency Operations Facility describes responsibilities/tasks of the Environmental Field Coordinator during a classified emergency. The Environmental Field Coordinator supervises activities of the environmental monitoring teams; coordinates offsite field survey and monitoring efforts with the state in order to maximize resources; and coordinates the assessment and analysis of field environmental samples. PEP-

270 also provides general responsibilities of the environmental monitoring team for offsite plume tracking, monitoring, and sampling activities. However, PEP-330 provides specific instructions for conduct of these activities.

Specific procedure guidance for environmental monitoring activities is located in:

- PEP-330, Radiological Consequences, Section 4.6; Attachments 3 through 9; Attachment 14, Attachment 16; and Attachment 18.
- PEP-270, Activation and Operation of the Emergency Operations Facility

E. Section B, "Onsite Emergency Organization," Response:

Consistent with Table B-1, "Minimum Staffing Requirements for Emergencies," (pages B-15, 16) of the HNP Emergency Plan, the actual number of field teams required to respond within the 30 to 45 minute time frame is one team consisting of two people. A second team is required to respond within the 60 to 75 minute time frame also consisting of two people. Therefore, the minimum staffing requirements for emergencies at HNP is a total of 4 people, specific to environmental monitoring.

The following is an excerpt from the Harris Nuclear Plant Emergency Procedure PEP-270, Activation and Operation of the EOF:

Section 3.2

The EOF must meet minimum staffing requirements for activation prior to the Emergency Response Manager (ERM) relieving the SEC-MCR of his portion of emergency management responsibilities. Both the Technical Support Center (TSC) and EOF will need to activate together.

a. The activation time for minimum staffing positions in the EOF is 60 minutes from the time the notification was initiated.

Attachment 1, Step 3

Evaluate the adequacy of the EOF staff for activation. Minimum staffing includes:

- ERM
- EP Advisor
- Radiological Control Manager (RCM)
- Dose Projection Team Leader (DPTL)
- **Environmental Monitoring personnel (4)**
- EOF HP Tech (initially reports to the OSC)
- Communications Manager (CM)
- Emergency Communicator - state/county
- News Coordinator
- Technical Analysis Manager (TAM)
- Admin and Logistics Manager (ALM)

F. Section I.7.1, "Field Monitoring Equipment," Response:

PEP-330, Radiological Consequences, is the implementing procedure used to sample iodine in the environment in support of the Harris Emergency Plan. Progress Energy uses silver zeolite cartridges to obtain the standard environmental air samples discussed in Section I.7.1 of the HNP Emergency Plan. Silver impregnated zeolite cartridges contain a highly efficient inorganic adsorbent for the collection and removal of elemental and organic forms of radioactive Iodine. Radioactive Xenon, Krypton, and other Noble Gases are not retained to any significant degree by silver impregnated zeolite cartridges (approximately 1/15,000th, or less, than that retained by activated Carbon). Interference from noble gases and background radiation is insignificant for detecting radioiodine when the collection media is silver zeolite and do not impact environmental results. EPM-420, Emergency Equipment Inventory Attachment 27, Emergency Equipment - HEEC Boat Shed Environmental Monitoring Kit Inventory Checklist ensures an adequate supply of silver zeolite cartridges are maintained in support of the HNP Emergency Plan.

Section I.7.1 of the HNP Emergency Plan discusses measuring in-field environmental monitoring samples for radioiodine by using a portable meter with a probe such as an HP-210. The portable meter allows the sample to be counted in a low background area or to simply use a background subtract method to prevent background radiation interference.

Iodine detection limits stated in the HNP Emergency Plan are not affected by interference from noble gases and background radiation.

Associated HAR COL Application Revisions:

No COLA revisions have been identified associated with this response.

Attachments/Enclosures:

None.

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-66 – Site 10

Text of NRC RAI:

A. Section J.1.2, "Evacuation and Personnel Accountability," (page J-1) of the Harris Nuclear Plant (HNP) Emergency Plan covers evacuation and accountability of onsite personnel. It references unspecified emergency procedures. Provide references to specific portions of plans and procedures that address evacuation of onsite personnel.

A.1 Section J.1.2, "Evacuation and Personnel Accountability," (page J-2) of the HNP Emergency Plan addresses accountability of onsite personnel. Procedures for establishing accountability are referred to, but specific procedures are not identified. Identify specific procedures and portions thereof that address accountability.

B. Table H-1, "Typical Emergency Supplies Available For Emergency Facilities," (page H-6) and Section K.3, "Use of Protective Equipment and Supplies," (page K-2) of the HNP Emergency Plan addresses protective equipment and supplies. Issuance of protective clothing and respirators is covered by plant radiological protection procedures, and that administration of radioprotective drugs is covered by plant emergency procedures, however procedures were not available for review. Provide references to specific portions of procedures that address use of protective clothing, respirators, and radioprotective drugs for onsite personnel.

C. Section J.2.2, "Protective Action Guides," (page J-3), Section J.2.3, "Protective Action Recommendations (PARS)," (page J-5) and Section J.2.4, "Ingestion Pathway Protective Measures," (page J-5) of the HNP Emergency Plan discuss the HNP role in recommending Protective Action Recommendations (PARs). The HNP Emergency Plan identifies the individuals, by position, authorized to release PARs, but it does not mention either procedures to be followed in developing PARs or a time frame for notification of offsite authorities after a PAR decision is made. a) Provide references to specific portions of procedures that address development of PARs and b) Describe the requirement related to the time period between a PAR decision and notification of the offsite authorities of the PAR.

C.1 – Section J.2.2, "Protective Action Guides," (page J-3), Section J.2.3, "Protective Action Recommendations (PARS)," (page J-5), and Section J.2.4, "Ingestion Pathway Protective Measures," (page J-5) of the HNP Emergency Plan discuss the HNP role in recommending Protective Action Recommendations (PARs). Section J.2.2 states that HNP staff normally do not have the information needed to determine whether offsite conditions would require sheltering instead of evacuation, therefore, that is usually performed by the offsite authorities. The guidance in Supplement 3 to NUREG-0654/FEMA-REP-1, "Criteria for Protective Action Recommendations for Severe Accidents," indicates that plant operators should recommend evacuation of areas close to the plant unless other conditions make evacuation dangerous. Generally onsite staff have some knowledge of offsite conditions and should not recommend protective actions that are inconsistent with that knowledge. Discuss how the protective action strategy for Harris takes into consideration situations with known offsite hazardous conditions.

C.2 - Section J.2.3 states that HNP PARs are based on plant conditions, projected doses and dose rates, and field monitoring data, and possible General Emergency PARs include evacuation, sheltering, and consideration of the use of potassium iodide (KI). These HNP

Emergency Plan sections do not refer to any procedures that provide specific criteria to be considered in making the PARs. Provide references to specific portions of procedures that address development of PARs.

D. The HNP Emergency Plan does not address relaxation or extension of issued Protective Action Recommendations (PARs). Identify specific procedures that address relaxation or extension of PARs that have been issued.

PGN RAI ID #: H-0239

PGN Response to NRC RAI:

A. The Plant Emergency Procedure that addresses evacuation of onsite personnel is PEP-350, Protective Actions. A reference to this procedure will be added to Section J.1.2 of the HNP Emergency Plan in a future amendment.

A.1 The Plant Emergency Procedure that addresses accountability of onsite personnel is PEP-350, Protective Actions. A reference to this procedure will be added to Section J.1.2 of the HNP Emergency Plan in a future amendment.

B. The Plant Emergency Procedure that addresses protective clothing, respirators, and radioprotective drugs for onsite personnel is PEP-330, Radiological Consequences. A reference to this procedure will be added to Section K.3 of the HNP Emergency Plan in a future amendment.

C. Section J.2.2, "Protective Action Guides," Responses:

a) The Plant Emergency Procedure that addresses development of PARs is PEP-110, Emergency Classification and Protective Action Recommendations. A reference to this procedure will be added to Section J.2.2 of the HNP Emergency Plan in a future amendment.

b) Section 3.3, PARs General Guidance, of PEP-110, Emergency Classification and Protective Action Recommendations, provides the following related to the time period requirement between a PAR decision and notification:

- **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.**
- **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.**

C.1 – Section J.2.2, "Protective Action Guides," Response:

PEP-110, Emergency Classification and Protective Action Recommendations contains guidance for HNP when making a Protective Action Recommendation offsite. Section 3.3 of PEP-110 states:

HNP personnel do not have the necessary information on external factors 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.

HNP makes a protective action recommendation to Wake County and the State of North Carolina based strictly on plant conditions. Wake County and the State with input from other local agencies (Chatham, Harnett and Lee Counties) issue the actual Protective Actions to be taken by the public. Offsite hazards are factored into the actual protective actions taken by the offsite agencies. This is the agreed and accepted practice in accordance with North Carolina Radiological Emergency Response Plan.

C.2 - Section J.2.3, "Protective Action Recommendations," Response:

The Plant Emergency Procedure that addresses development of PARs is PEP-110, Emergency Classification and Protective Action Recommendations. A reference to this procedure will be added to Section J.2.3 of the HNP Emergency Plan in a future amendment.

D. The HNP Emergency Plan, Response:

HNP Emergency Plan Section M.2, Recovery Plan Activation, addresses relaxation of PARs that have been issued:

> Decisions to relax protective actions for the public will be made in accordance with the State of North Carolina Radiological Emergency Response Plan for Nuclear Power Facilities. The Recovery Manager will provide information to the appropriate state agencies to facilitate the decision.

HNP site specific procedures also address relaxation and extension of PARs.

PEP-110, Emergency Classification and Protective Action Recommendations (PAR) contains guidance for HNP when making a Protective Action Recommendation offsite. Section 3.3.1 of PEP-110 states:

> 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).

PEP-110, sections 4.2 and 4.3 discuss determining initial PARs and PEP-110, section 4.4 discusses downgrading an emergency classification level. Any classification below a General Emergency requires an Emergency Notification Form to be communicated to the State of North Carolina and local counties. The Emergency Notification Form no longer recommends any protective actions to be taken for offsite personnel once a General Emergency ceases to exist. However per PEP-110 section 4.4, if offsite Protective Action Recommendations have been made, the Site Emergency Coordinator shall consult with the Emergency Response Manager and with State and County authorities, prior to downgrading.

PEP-310, Notifications and Communications provides procedural guidance on completing the Emergency Notification Form (ENF) which is the tool used to initially communicate protective action recommendations to the offsite agencies. The ENF is also used to communicate PAR extension or relaxation. PEP-310 Attachment 12 provides specific guidance on how to complete the Emergency Notification Form for communicating PARs.

PEP-110, Emergency Classification and Protective Action Recommendations and PEP-310, Notifications and Communications are the specific HNP procedures that address relaxation or extension of PARs that have been issued.

Associated HAR COL Application Revisions:

The following changes will be made to the HAR Emergency Plan in a future amendment:

1. Revise the second paragraph of EP Section J.1.2 from:

   Personnel within the Protected Area will be accounted for, and missing individual(s) will be identified by Security. Continuous accountability of personnel remaining inside the protected area will be maintained throughout the event. Plant emergency procedures describe the accountability methodology. Search procedures will be implemented to locate unaccounted persons.

   To read:

   Personnel within the Protected Area will be accounted for, and missing individual(s) will be identified by Security. Continuous accountability of personnel remaining inside the protected area will be maintained throughout the event. Plant emergency procedures describe the accountability methodology (see PEP-350, Protective Actions). Search procedures will be implemented to locate unaccounted for persons.

2. Revise the third paragraph of EP Section J.1.2 from:

   Evacuation of onsite personnel can be accomplished, in accordance with plant emergency procedures for the site or the Exclusion Area. The following provides more detail regarding Site, Exclusion Area, and local evacuations.

   To read:

   Evacuation of onsite personnel can be accomplished, in accordance with plant emergency procedures for the site or the Exclusion Area (see PEP-350, Protective Actions). The following provides more detail regarding Site, Exclusion Area, and local evacuations.

3. Revise the last two paragraphs of EP Section K.3 from:

   The criteria for issuance of respiratory protection and protective clothing are described in plant radiological protection procedures.

   Procedures for the administration of radioprotective drugs to employees are described in the plant emergency procedures.

   To read:

   The criteria for issuance of respiratory protection and protective clothing are described in plant radiological protection procedures (see PEP-330, Radiological Consequences).

   Procedures for the administration of radioprotective drugs to employees are described in the plant emergency procedures (see PEP-330, Radiological Consequences).

4. Add the following at the end of Section J.2.2, Protective Action Guides, of the HAR EP as the final paragraph of that section:

Plant Emergency Procedure PEP-110, Emergency Classification and Protective Action Recommendations addresses development of PARs.

5. Add the following at the end of Section J.2.3, Protective Action Recommendations (PARs) of the HAR EP as the final paragraph of that section:

Plant Emergency Procedure PEP-110, Emergency Classification and Protective Action Recommendations addresses development of PARs.

Attachments/Enclosures:

None.

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-67 – Site 11

Text of NRC RAI:

A. Section K.1.e, "Emergency Exposures," (page K-2) of the Harris Nuclear Plant (HNP) Emergency Plan states that implementing procedures are used for selecting and controlling personnel receiving emergency related exposure however the procedures were not available for review. Provide a summary of HNP's process for permitting onsite volunteers to receive radiation exposures in the course of carrying out lifesaving and other emergency activities and for defining expeditious decision making and reasonable consideration of relative risks.

B. Section K.4, "Decontamination and First Aid," (pages K-2, 3) of the HNP Emergency Plan states that decontamination of personnel is described in plant procedures however procedures were not available for review. Provide an explanation of the process of personnel decontamination, including exposure/contamination limits for injured workers.

B.1 Section K.4, "Decontamination and First Aid," (pages K-2, 3) of the HNP Emergency Plan states that decontamination of personnel, equipment and areas are described in plant procedures however procedures were not available for review. Provide a summary of HNP processes for radiological decontamination of personnel wounds, supplies, instruments and equipment and the disposal of radwaste.

B.2 Section K.4, "Decontamination and First Aid," (page K-3) of the HNP Emergency Plan states that contamination control criteria for returning areas and items to normal use are contained in plant Health Physics procedures however the procedures were not available for review. Provide a summary of the process for permitting return of areas and items to normal use.

C. Section K.2, "Exposure Records for Emergency Workers," (page K-2) of the HNP Emergency Plan identifies that the Harris Energy and Environmental Center (HE&EC) has thermoluminescent dosimeter (TLD) reading capabilities and has 24-hour staffing capability, however contingency arrangements are not identified for alternative dosimeter processing. Provide information on HNPs contingency arrangements for 24-hour TLD readout capabilities and on the provisions for distribution of dosimeters, both self-reading and permanent record devices.

C.1 Section K.2, "Exposure Records for Emergency Workers," (page K-2) of the HNP Emergency Plan does not identify the dosimeter read-out frequency and states that dose records are maintained by the Radiological Control Coordinator in accordance with plant emergency procedures, however the procedures were not available for review. Provide information on dosimeter read-out frequencies and a summary of how dose records are maintained for emergency workers involved in any nuclear accident, including contingency arrangements for alternative dose record access and processing should normal access not be available.

D. Section K.6, "Radiological and Contamination Control Facilities," (page K-3) of the HNP Emergency Plan identifies temporary facilities, expanding radiation control areas and/or establishing access control points to limit contamination and exposure, however how access

control is achieved is not described. Explain how area access control measures are implemented.

E. Section K.6, "Contamination Control of Drinking Water and Food," (page K-3) of the HNP Emergency Plan states that if drinking water or food is found to be contaminated, uncontaminated water and food will be brought onsite for personnel. However, there is no explanation of how uncontaminated food and water would be obtained or brought to the site. Explain how uncontaminated food and water will be obtained and brought to the site.

F. Section K.3, "Use of Protective Equipment and Supplies," (page K-2) of the HNP Emergency Plan identifies potassium iodide and administration of radioprotective drugs as described in plant emergency procedures for onsite personnel, however the procedures were not available for review. Provide additional information on the HNP process of relocation of onsite personnel, including provisions for extra clothing and decontaminants suitable for the type of contamination expected, with particular attention given to radioiodine contamination of the skin.

PGN RAI ID #: H-0240

PGN Response to NRC RAI:

A. Section K.1.e, "Emergency Exposures," Response:

PEP-330, Radiological Consequences, describes radiological controls for emergency workers. The exposure guidelines described in PEP-330 are consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides (PAGs) described in EPA-400-R-92-001 (EPA-400). Monitoring of radiation during an emergency will be performed using existing plant procedures, where practical, and in accordance with the exposure guidelines described in PEP-330 which include the following:

a. Dose to workers during an emergency should be limited to 5 rem.
b. Workers participating in activities in which dose will exceed 25 rem to the whole body should do so on a voluntary basis and be aware of the risks.
c. Workers performing services during an emergency should be limited to 50 rem to the thyroid.
d. KI should be considered as a potential dose reducing option for any situation in which airborne radioactive iodine is present (an additional ALARA option).

During a classified emergency, the Radiological Control Director (RCD) and Site Emergency Coordinator (SEC) are responsible for decision-making and consideration of risks involved with onsite emergency lifesaving and emergency reentry/repair actions. Using guidelines in PEP-330, the RCD, in consultation with the SEC, will consider the following limitations:

a. A Declared Pregnant Woman shall not take part in these actions.
b. Internal exposure should be minimized by the use of the most appropriate respiratory protection or ALARA practice whenever possible, and contamination should be controlled by the use of protective clothing when practical.
c. Emergency worker exposures during lifesaving and reentry/repair efforts should be limited to the dose limits described in PEP-330 (based on guidance described in EPA-400). PEP-330 describes a dose limit of 25 rem TEDE for lifesaving or protection of large populations if a lower dose is not practicable; and a dose limit of greater than 25 rem TEDE for lifesaving or protection of large populations only on a voluntary basis to persons fully aware of the risks involved.

d. Limit dose to the lens of the eye to three (3) times the values described in PEP-330 emergency exposure guidelines, and limit doses to any other organ (including thyroid, skin, and body extremities to ten (10) times those values.

e. Entry into radiation fields of greater than 25 rem/hr or exposure in excess of 5 rem TEDE shall not be permitted unless specifically authorized by the SEC.

f. In emergency situations where an exposure in excess of 25 rem TEDE would be required, the following additional criteria shall be considered:

- Rescue personnel must be volunteers.
- Rescue personnel should have a full awareness of the risks involved.
- Other things being equal, volunteers above the age of 45 should be selected whenever possible for the purpose of avoiding unnecessary genetic effects.
- Exposure under these conditions should be limited to once in a lifetime, and shall be included when calculating future lifetime permissible exposures.

PEP-330 also describes the potential health effects of exposure to ionizing radiation, including health effects associated with whole body absorbed doses received within a few hours; information on approximate cancer risk to average individuals based on 25 rem effective dose equivalent (delivered promptly); and radiation doses causing acute injury to organs.

B. Section K.4, "Decontamination and First Aid," Response:

HPS-NGGC-0013, Personnel Contamination Monitoring, Decontamination, and Reporting, is the procedure that HNP Radiation Control staff use for personnel decontamination. When personnel have radioactivity from licensed material detected on their body or clothing greater than the minimum detectable count rate (MDCR) of the instrument, the radioactivity is removed prior to being unconditionally released from the Radiation Control Area. In rare cases where contamination cannot be removed from an individual's skin the Superintendent of Radiation Protection must authorize the conditional release of the worker from the Radiation Control Area and specify any contingency controls.

Whole body portal monitors and hand held portable monitoring instruments are used to detect personnel contamination. Whole body monitors and hand held devices are both capable of detecting a MDCR of 100 net counts per minute or less for beta and gamma radiation. In addition, there must not be any measurable count rate above background for alpha radiation. Table K-1 of the HNP Emergency Plan also contains unconditional release limits for skin contamination or personal clothing.

Materials used for routine personnel decontamination may include (but are not limited to):

- Mild soap (for example, Ivory, Phisoderm)
- Waterless hand cleaner
- Shampoo
- Cotton swabs (Q-tip)
- Soft-bristle brush
- Lanolin skin cream
- Plastic bags or wrap
- Masking tape/transparent tape

- Isotonic saline irrigating solution

Materials used for routine clothing decontamination may include (but are not limited to):

- Duct tape
- Vacuum cleaner
- Soap and Water
- Wire or stiff-bristle brush

Per PEP-350, Protective Actions Section 3.0 in cases of severe injury, life-saving first aid or medical treatment shall take precedence over personnel decontamination. The order of medical treatment will be:

a. Care of severe physical injuries.

b. Personnel decontamination.

c. First aid to other injuries.

d. Definitive medical treatment and subsequent therapy as required.

Therefore no specific contamination limit is prescribed for injured workers; however the HNP Emergency Plan provides the following dose limits for emergency workers in Section K.1, Emergency Exposures.

Dose Limit (Rem/TEDE)	Activity	Condition
5	All	
10	Protecting valuable property	Lower dose not practicable
25	Lifesaving or protection of large populations	Lower dose not practicable
> 25	Lifesaving or protection of large populations	Only on a voluntary basis to persons fully aware of the risks involved.

B.1 Section K.4, "Decontamination and First Aid," Response:

HPS-NGGC-0013, Personnel Contamination Monitoring, Decontamination, and Reporting, is the procedure that HNP Radiation Control staff use for personnel decontamination. HPS-NGGC-0013 Attachment 2, Personnel Decontamination Section 3.1 states for cases of contaminated injuries, first aid always takes precedence over decontamination. If the contamination involves an open wound, the Radiation Control Supervisor must be contacted before attempting decontamination. Due to the various types and severities of wounds a predetermined decontamination method is not scripted however Radiation Control Supervision is consulted for the preferred method based on the circumstance. Personnel with contaminated wounds for which Progress Energy is not trained to handle due to medical complications will be transported offsite to one of the agreement medical facilities as described in Section L.2, Medical Transportation of the HNP Emergency Plan and listed on Appendix 3, Letters of Agreement for the HNP Emergency Plan.

PEP-350, Protective Actions Section 3.0 also addresses decontamination of personnel wounds by stating in cases of severe injury, life-saving first aid or medical treatment shall take precedence over personnel decontamination. The order of medical treatment will be:

a. Care of severe physical injuries.

b. Personnel decontamination.

c. First aid to other injuries.

d. Definitive medical treatment and subsequent therapy as required.

Supplies, instruments and equipment that become radiologically contaminated may or may not be decontaminated based on future need for use of such item. In some instances the equipment may remain contaminated and used as such for future activities. If the item is deemed to be decontaminated the method of radiological decontamination is contingent of the item material, size, functionality, etc. No prescript method exists for how to decontaminate every supply, instrument or equipment used since the material, future use and level of contamination is unique and factors into the decontamination method. Decontamination methods can vary from as little as wiping with a cloth to disassembly and grit blasting or ultrasonic cleaning.

HNP Emergency Plan Table K-1 and HPP-800, Handling Radioactive Material are the procedures that specify criteria for unconditionally releasing items from a Radiologically Controlled Area (RCA). Tools and Equipment may be released from an RCA provided that no activity above background is measurable. This requirement is met by observing the following criteria:

a. Beta/Gamma Contamination

   1. Removable Contamination - Less than the Minimum Detectable Count rate (MDC) for the counting instrument used, for a survey area of approximately 100 cm2.

   2. Total Contamination - Less than 100 net cpm per probe area as measured with a pancake GM detector, or less than the alarm setpoint (a display indication of "clear") when monitored with a Small Article Monitor.

b. Alpha Contamination

   1. Removable Contamination - Less than the Minimum Detectable Count rate (MDC) for the counting instrument used, for a survey area of approximately 100 cm2.

   2. Total Contamination - Less than MDC per 100 cm2 for the counting instrument used.

Items that cannot be unconditionally released from the RCA and no longer have a useful purpose are disposed of as radioactive waste per HPS-NGGC-0001 Radioactive Material Receipt And Shipping Procedure. HPS-NGGC-0001 provides guidance to meet the regulations presented in 49CFR and 10CFR, as they pertain to shipment of radioactive materials. This procedure encompasses the major aspects pertaining to handling, packaging, characterizing, classifying, and shipping radioactive material to another licensed facility or to a burial site. Disposal of items will be evaluated on a case-by-case basis and methodologies consistent with appropriate regulations used to properly handle the material.

B.2 Section K.4, "Decontamination and First Aid," Response:

HPS-NGGC-0003, Radiological Posting, Labeling and Surveys, provides guidance on how to post rooms and areas for radiation control purposes at the Harris Plant. Criteria for posting an

area as contaminated is defined in Section 3.7 of the procedure as, "Any area accessible to personnel where the removable surface contamination is in excess of 1,000 dpm/100 cm2 beta-gamma and/or 20 dpm/100 cm2 alpha." The HPS-NGGC-0003 criterion is consistent with the contamination area limits provided in Table K-1 of the HNP Emergency Plan.

Prior to permitting an area to be returned for normal use (non-contaminated) within a Radiation Control Area the detectable contamination limits must be less than the criteria stated above. The criteria is the minimum detectable count rates for the instrumentation used and matches the criteria for unconditional release of items (see RAI 11.B.1 response above for additional information).

Areas located outside of a permanent Radiation Control Area must have no measurable activity above background prior to being returned to normal use.

Areas and items that become radiologically contaminated are typically decontaminated using soap and water. No prescript method exists for how to decontaminate every area and item due to the unique characteristics and some cases may require additional methods to be employed such as paint removal and disposal.

Surveys are performed to verify the contamination criteria stated above is not exceeded. If the area still meets the criteria for a contamination area further decontamination and surveys are performed. Areas that continue to show measureable radioactivity will be controlled to prevent "normal" use. Areas and items with no measurable activity above background will be released for normal use.

C. Section K.2, "Exposure Records for Emergency Workers," Response:

The Progress Energy's HE&EC is a member of the National Institute of Standards and Technology National Voluntary Laboratory Accredited Program (NVLAP). As such, a back-up TLD processing agreement must be in-place. Currently Troxler Electronic Laboratories, located in Research Triangle Park, North Carolina is the back-up vendor that would be used to process TLDs in the event of an emergency at the Harris Site. The Troxler facility is less than 50 miles from the HE&EC and can be used with no impact to TLD processing.

Ample provisions of Self-reading Pocket Dosimeters (SRPDs) and permanent record devices (TLD) exist at the Harris Plant (HNP) in support of the Emergency Response Plan. Permanent HNP personnel staff the onsite Harris Emergency Response Facilities. As such, the majority of the Emergency Response Organization has a personal TLD assigned and on their person at all times they are onsite. In the initial phases of an emergency the individual would continue to wear the permanent TLD assigned. Each individual has two TLDs that are rotated so when one is being read for dose assessment the second TLD is issued to continue dose monitoring. Emergency Plan Kits contain ample inventory of dosimeters to monitor any personnel not permanently assigned TLDs during the initial phases of an emergency. For extended emergencies, additional TLDs can be obtained from the HE&EC, other Progress Energy Plants, State of North Carolina, INPO, Troxler, etc. if needed.

Self-reading dosimeters are typically assigned on an as needed basis for repair missions or other assignments requiring an Emergency Radiation Work Permit. The SRPDs are normally electronic and the same as used in day-to-day operation. The supply is ample to use during normal or outage conditions and would meet the need for an emergency at the Harris Plant. If additional electronic dosimeters were needed the HE&EC and other Progress Energy nuclear plants would be able to provide additional dosimeters. In the unlikely event all electronic dosimeters failed then Pocket Ionization Chambers (PICs) will be used as a SRPD. PICs are

maintained in selected Emergency Kits for use as needed. PICs can also be assigned to individuals in the Emergency Response Facilities if habitability conditions warrant dosimetry.

SRPDs and TLDs are available to offsite responders such as medical, fire, etc. onsite in support of the Harris Emergency Plan. Offsite responders are assigned dosimetry upon arrival and retrieved upon site exit. An ample inventory of offsite responder dosimetry is maintained at the Harris Site. However, if additional dosimetry was needed, the same resources listed above to supply dosimetry for Progress Energy employees would be used for offsite responders.

C.1 Section K.2, "Exposure Records for Emergency Workers," Response:

PEP-330, Radiological Consequences provides guidance on dosimeter read-out frequencies and record keeping. Self-reading pocket dosimeters are read at a minimum upon exit from a radiation control area. Emergency responders who are issued self-reading pocket dosimetry (SRPD) but don't enter a posted radiation control area have the SRPD read at a minimum prior to leaving site per Section 4.3 of PEP-330. No pre-established frequency is established for the reading of TLDs. TLD readout frequency would be dependent on total dose an individual receives based on SRPD readings, questionable readings or termination of the emergency event. In the unlikely event of a prolonged emergency event, TLDs are typically read on a four month frequency for Harris Plant personnel.

Emergency dose records are maintained using the electronic dose record system used during normal operation via PassPort or manually by the Radiological Control Coordinator (RCC) per PEP-330 Attachment 10, Emergency Radiation Work Permit and/or Attachment 12, Emergency Dosimetry Issue Form. Attachment 10 is used for individuals that have the potential to make multiple entries and the "year" and "life-time" exposure limits need to be tracked. Attachment 12 is primarily used for individuals, such as an offsite responder, who make a single entry onto the site and receive dosimetry. If the offsite responders are required to work in areas requiring an emergency radiation work permit then their exposure would be tracked on Attachment 10. The manual method using Attachment 10 and 12 is updated on hard-copy by the RCC until the normal electronic process is available. At that time the manual records are transferred to the electronic system (PassPort).

The electronic dose record system used by Progress Energy records individual entry dose plus contains updated life time exposure records to maintain compliance with regulatory dose limits. Personnel log into and out of the system each radiation control area entry to maintain an accurate dose history. Individuals approaching administrative or regulatory dose limits are electronically flagged to increase awareness of the dose limit being approached. Radiation Control interaction is needed prior to the individual obtaining access back into a Radiation Control Area via the electronic log-in system once a dose flag is received. The electronic dose record system is the normal method for processing self reading pocket dosimetry information during an emergency at the Harris Site. The electronic dose record system is accessible from multiple onsite locations plus other Progress Energy Nuclear Facilities allowing dose record access from remote locations. The backup method should the electronic system be unavailable is the hardcopy, hand processing method described above as the manual method using PEP-330 Attachments 10 and 12.

D. Section K.6, "Radiological and Contamination Control Facilities," Response:

Access control measures for Radiation Control Areas are implemented by using:

- Postings

- Boundaries, and
- Radiation Work Permits

Access control posting requirements and controls are specified in HPS-NGGC-0003, Radiological Posting, Labeling and Surveys. Signs used to post the access control area contain the radiation symbol on signs and use the colors magenta, purple, or black on yellow background. Radiological postings specify conditions that must be met prior to entry and are listed in order of hazard.

Radiological postings are posted in order of the hazard:

1. Radiation
2. Airborne
3. Hot Particle
4. Contamination
5. Radioactive Material
6. Additional Requirements/Instructions

Radiological areas are identified in a manner that clearly indicates the boundary of the area. If the area requires a physical boundary, physical structures such as walls, doors, or fences can be used as boundary markers supplemented by radiation rope/signs for gaps in the physical barriers. Any radiological ropes and tape used to establish radiological boundaries use the colors purple or magenta in conjunction with yellow.

Access control for any area with radiation levels greater than 1,000 mrem/hr will include a locked entrance to prevent inadvertent access. Areas with radiation levels greater than 1,000 mrem/hr but less than 500 Rads/hr are posted as Locked High Radiation Areas. Areas greater than 500 Rads/hr are posted as a Very High Radiation Area. Keys needed to gain entry into the areas are maintained by Radiation Control Personnel. AP-504, Administrative Controls for Locked and Very High Radiation Areas, specifies controls used to gain entry into the locked areas.

Access into a Radiation Control Area is controlled through use of a Radiation Work Permit (RWP). Radiation work permits are used to control personnel exposures and specify the proper planning, selection, and use of protective measures. The RWP ensures any additional radiological controls needed to access the area are followed by personnel to maintain exposure ALARA.

AP-535, Performing Work in Radiological Control Areas Section 5.1 specifies the requirement for personnel to sign in on a Radiation Work Permit prior to entering a Radiation Control Area. PEP-330, Radiological Consequences Section 4.2 provides guidance to the Radiation Control personnel for writing emergency radiation work permits.

In summary, access control measures are implemented through postings, boundaries and radiation work permits stating any required protective measures.

E. Section K.6, "Contamination Control of Drinking Water and Food," Response:

Section K.6 is referenced in the RAI however it is assumed the question pertains to Section K.5, "Contamination Control of Drinking Water and Food" and addressed accordingly. Emergency classification of an "Unusual Event" would not require activation of the emergency response organization, or result in wholesale contamination of potable water and food. In the event of an

Alert or higher emergency classification, the HNP Emergency Plan staffs an Administrative and Logistics Manager (ALM) in the Emergency Operations Facility. One of the duties of the ALM is to procure offsite resources during an emergency. The ALM would contact an offsite resource (e.g., grocery store, restaurant, INPO, NRC, major distributor warehouse, other Progress Energy Plant, etc.) to provide uncontaminated food and water for delivery. Food and water would be delivered by the vendor or, transported to the site by Company representatives. The ability to identify and procure resources is skill of the craft and specifics of where or how to procure each item that may be needed during an emergency is not described in station specific procedures.

PEP-270, Activation and Operation of the Emergency Operations Facility Attachment 19, Administrative and Logistics Manager Checklist, defines the specific responsibility to obtain needed supplies and staples for the emergency response organization.

F. Section K.3, "Use of Protective Equipment and Supplies," Response:

The process of relocation of onsite personnel that are not contaminated follows the instructions in PEP-350, Protective Actions, Section 4.1, Site Evacuation. Onsite personnel place their work area in a safe condition and report as instructed to their designated assembly area or an alternate location per PA instructions. Upon notification of the declaration of an Alert, Site Area Emergency, or General Emergency, personnel who are members of the ERO report to their designated emergency response facility. Personnel not on the ERO or assisting with the emergency depart the site using personal transportation. If personnel are contaminated and must be relocated, Section L.3.1 of the HNP Emergency Plan, Hospital Facilities, explains there is a specially designated emergency area that is maintained in readiness at Rex Hospital for HNP's use for the treatment of contaminated or overexposed patients from the Site, including treatment of radioiodine contamination of the skin. WakeMed Raleigh and WakeMed Cary serve as backup medical facilities for HNP personnel should Rex Hospital become unavailable. Equipment is available in the hospital for the emergency treatment of patients. For example, an emergency kit containing supplies and equipment for personnel monitoring and the control of radioactive contamination is maintained at Rex Hospital, WakeMed Raleigh, and WakeMed Cary. These kits contain the following:

- Low-range radiation monitoring instruments for determining contamination levels.
- Personnel monitoring equipment such as self-reading pocket dosimeters and TLDs.
- Decontamination equipment and supplies for both personnel and facility.
- Contamination control equipment and supplies such as protective clothing, signs, ropes, tags, plastic bags.

Associated HAR COL Application Revisions:

The following changes will be made to the HAR Emergency Plan in a future amendment:

1. Revise the first paragraph of Section L.3.1, Hospital Facilities of the HNP Emergency Plan from:

   A specially designated emergency area is maintained in readiness at Rex Hospital for HNP's use for the treatment of contaminated or overexposed patients from the Site. Although this area will be utilized by the hospital when not required by HNP, it will be made available to HNP when required. Equipment is available in the hospital for the emergency

treatment of patients. With the facilities and equipment available, extensive decontamination and treatment of an injured patient could be performed, including any surgical treatment that may be required.

To read:

A specially designated emergency area is maintained in readiness at Rex Hospital for HNP's use for the treatment of contaminated or overexposed patients from the Site. Although this area will be utilized by the hospital when not required by HNP, it will be made available to HNP when required. Equipment is available in the hospital for the emergency treatment of patients. With the facilities and equipment available, extensive decontamination and treatment of an injured patient could be performed, including decontamination of radioiodine contamination of the skin, and any surgical treatment that may be required.

Attachments/Enclosures:

None.

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-68 – Site 12

Text of NRC RAI:

A. Appendix 3, "Letters of Agreement," (page Appendix 3-1) of the Harris Nuclear Plant (HNP) Emergency Plan includes agreements with the medical services providers, however three organizations were listed in the text but no agreement letters were listed. Provide the letters of agreement or explain why the letters of agreement are not needed.

PGN RAI ID #: H-0241

PGN Response to NRC RAI:

A. Appendix 3, "Letters of Agreement," Response:

The Harris Nuclear Plant (HNP) Emergency Plan does include three organizations listed in the text that are not listed in Appendix 3, "Letters of Agreement". Those organizations are the Raleigh Communications Center (listed in Section A.3.7); American Nuclear Insurers (ANI) (listed in Section A.5.2); and Nuclear Electric Insurance Limited (NEIL) (also listed in Section A.5.2).

The first organization, the Raleigh Communications Center, is a public service organization that serves Wake County and all municipalities as the 24-hour warning point in providing 9-1-1 emergency telephone notification. They act as a link between public safety agencies and the public and since the Harris Nuclear Plant is located within Wake County, a letter of agreement is not necessary with this organization to utilize their services.

The second organization, American Nuclear Insurers (ANI), is simply an insurance organization that would assist Progress Energy by managing the insurance claims generated by the public who may be affected by an offsite radiological event. Progress Energy is a member of ANI and therefore a letter of agreement is not necessary with this organization to utilize their services.

The third and final organization, Nuclear Electric Insurance Limited (NEIL), is very similar to ANI as it is also an insurance organization that Progress Energy is a member. NEIL would assist Progress Energy in determining the damage to equipment onsite and managing the insurance claims made by the utility for the loss of the generation of power due to an emergency. Therefore as a member of NEIL, a letter of agreement is not necessary with this organization to utilize their services.

Associated HAR COL Application Revisions:

No COLA revisions have been identified associated with this response.

Attachments/Enclosures:

None.

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-69 – Site 13

Text of NRC RAI:

A. Section M.5, "Re-Entry Planning," (page M-6) of the Harris Nuclear Plant (HNP) Emergency Plan states that plans and procedures for re-entry are developed at the time of the recovery phase considering radiation survey data, exposure records of personnel involved in the recovery phase, sampling and survey instruments, personnel protection need, communications, and re-entry team briefings, however there is no discussion related to relaxing protective measures. Describe the means and process by which decisions to relax protective measures (e.g., allow reentry into an evacuated area) are reached.

B. Section M.6, "Total Population Exposure Estimates," (pages M-6, 7) of the HNP Emergency Plan states that total population exposure will be periodically determined through procedures including; examination of prepositioned thermoluminescent dosimeters (TLDs), bioassay, release rates and meteorology, and environmental monitoring of food, water and ambient dose rates, however the procedures were not available for review. Provide a summary of the method used for estimating population exposure.

PGN RAI ID #: H-0242

PGN Response to NRC RAI:

A. Section M.5, "Re-Entry Planning," (page M-6) of the Harris Nuclear Plant (HNP) Emergency Plan is correct that plans and procedures for re-entry are developed at the time of the recovery phase. Plant Emergency Procedure PEP-500, Recovery, describes the steps for transition and recovery from each event type (unusual event, alert or higher classification). Depending on the level of the event, different guidelines are followed to make the decision of relaxing protective measures and transitioning into recovery. Those guidelines discuss proper personnel reviewing the results of radiation sampling and survey data. The Site Emergency Coordinator (SEC), with guidance from the Radiological Control Director (RCD) and TSC staff, reviews results from sampling data, and RWPs will be adjusted as needed for relaxing conditions to allow reentry.

B. Per Section M.6, "Total Population Exposure Estimates," (pages M-6, 7) of the HNP Emergency Plan, a summary of the methods used for estimating population exposures consists of determining the estimate from data collected in cooperation with the State. The state will be responsible for the collection and analysis of radiation monitoring reports and environmental air, foliage, food, and water samples, with help from qualified personnel from HNP. The population exposure will then be determined through examination of prepositioned thermoluminescent dosimeters (TLDs); bioassay; release rates and meteorology; and environmental monitoring of food, water and ambient dose rates.

Associated HAR COL Application Revisions:

No COLA revisions have been identified associated with this response.

Attachments/Enclosures:

None.

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-70 – Site 14

Text of NRC RAI:

A. Section N.1, "Exercises," (pages N-1, 2) of the Harris Nuclear Plant (HNP) Emergency Plan states that the HNP Emergency Planning Coordinator determines critique items requiring corrective actions and that site administrative controls are used to ensure corrective actions are implemented, however there is no discussion on the process used for determining what constitutes a corrective action or how the site administrative controls ensure implementation of corrective actions. Provide a summary of the HNP drill and exercise critique evaluation process including a discussion of corrective actions and how deficiencies are identified and corrected.

B. Section N.2.6, "Integrated Drills," (page N-3) of the HNP Emergency Plan states the degree of participation by outside agencies may vary or be simulated however there is no mention of how HNP would handle any State of local government request to participate in the licensee's drill. Provide additional information regarding how HNP responds to requests for participation in their drills from the States or local governments within the plume exposure Emergency Planning Zone (EPZ).

C. Section N, "Exercises and Drills," (pages N-1 to 3) of the HNP Emergency Plan does not address remedial exercises. Provide additional information regarding HNP actions resulting from an unsatisfactory test of the biennial exercise.

D. FSAR Table 13.4-201, "Operational Programs Required by NRC Regulations," Operational Program 14, Emergency Planning (page FSAR 13.4-5), indicates that a full participation exercise will be conducted within two years of the scheduled date for initial loading of fuel in accordance with 10 CFR Part 50, Appendix E, Section IV.F.2.a(ii). While this section of the emergency planning rules addresses the conduct of a full participation exercise for a combined license, Section IV.F.2.a(iii) addresses the conduct of a full participation exercise for a combined license for a site with an operating reactor. Please discuss the applicability of Section IV.F.2a(iii) to the Harris site and how this would affect the conduct of the onsite exercise within one year before the scheduled date for initial loading of fuel.

PGN RAI ID #: H-0243

PGN Response to NRC RAI:

A. EPM-210, EP Drill and Exercise Program, describes the drill/exercise critique process and initiation of corrective actions resulting from drills and exercises. In accordance with EPM-210, the Supervisor-Emergency Preparedness is responsible for ensuring the drill/exercise program maintains a high level of proficiency; concurring with the selection of objectives for demonstration during drills and exercises; approving drill/exercise critique reports; and determining which critique items warrant follow-up action in accordance with the HNP Corrective Action Program. The Drill/Exercise Coordinator is responsible for coordinating drill/exercise-related activities, including documentation of the event, and for ensuring the conduct of the drill or exercise does not adversely impact plant operation. Controllers are assigned to each Emergency Response Facility (i.e., Control Room, TSC, OSC, EOF, and

JIC) and are responsible for providing data and message cards to participants. Evaluators (who may also function as controllers if warranted) are also assigned to each Emergency Response Facility (ERF) and are responsible for evaluating performance of participants; completing assigned objective demonstration evaluations; and providing input for the critique report. A Lead Facility Controller is assigned to each ERF and has the responsibility for all scenario-related activities within the facility including distribution of scenario data to participants and preparation of evaluation results (critique report) for his/her facility. A Lead Facility Evaluator is assigned to each ERF and has the responsibility for ensuring all ERO qualification paperwork is completed and providing input for development of the critique report for the facility in conjunction with the Lead Facility Controller.

Drill/Exercise Critique Process:

At the termination of a drill or exercise, the Lead Facility Evaluator in each ERF initiates a participant critique and assists the facility manager with a self critique of the drill/exercise. The purpose of the participant critique is to obtain comments/observations from the participants concerning drill/exercise performance, equipment, facilities, etc. Each Lead Facility Evaluator provides preliminary feedback to the participants from the controller/evaluator perspective. The Lead Controller in each ERF then assembles the controller/evaluator staff from his/her facility and determines if any significant Deficiencies or Weaknesses have been identified during the drill or exercise.

The participant critique "self-assessment" information is reviewed, compared to the controller/evaluator documentation, and included in the drill/exercise critique report if applicable. A single, written critique may be used to report the evaluation results of multiple drills if they are similar in nature and occur within a few weeks of each other.

For the NRC biennial exercise, a preliminary evaluation shall be presented to key participants, plant management, and the NRC prior to an NRC Evaluation Team exit meeting.

The evaluation for each drill or exercise is summarized in a written critique for distribution to the appropriate ERO members and management within 30 days following the drill(s) or exercise. Other details:

a. The appropriate parts of the Emergency Plan and the Plant Emergency Procedures (PEPs) that apply to the function, activity, facilities and personnel and objectives of the drill or exercise are used in development of the critique.

b. The critique includes input from the Controllers and Evaluators in addition to the self assessment by the drill/exercise participants. Observations are screened for applicability by the Emergency Preparedness staff and categorized as Strengths, Deficiencies, Weaknesses or Comments.

c. Critique reports contain an overall grading or rating for each facility being evaluated (Control Room, TSC, OSC, EOF including environmental monitoring activities, and the JIC) as Excellent, Satisfactory, or Unsatisfactory.

Drill or exercise critique reports are distributed to appropriate ERO members and plant management, as determined by the Supervisor-Emergency Preparedness. Distribution includes copies to the Plant General Manager and Vice President, Harris Nuclear Plant.

Drill and Exercise Corrective Action Initiation:

The Supervisor-Emergency Preparedness reviews all written critiques and/or evaluations to determine Deficiency and Weakness corrective action responsibilities and due dates and also determine Comments that warrant follow-up action or further investigation. Note: All Deficiencies and Weaknesses are to be documented and corrected.

The Supervisor-Emergency Preparedness ensures that drill and exercise Deficiencies are addressed per CAP-NGGC-0200, Corrective Action Program, and ensures that tracking and trending of items is completed in accordance with the HNP Corrective Action Program. Examples include:

a. Instances of non-compliance with the Emergency Plan.

b. Conditions indicative of inadequate management attention to activities affecting the ability to protect the health and safety of plant personnel and the public.

c. Recurring inadequacies in the HNP Emergency Preparedness Program.

The Supervisor-Emergency Preparedness ensures that other drill and exercise items which warrant follow-up action or further investigation are entered into the HNP Corrective Action Program as "Improvement" level Condition Reports (CRs), or as Nuclear Task Management Items (NTMs).

B. Progress Energy normally coordinates offsite agency participation in Harris Nuclear Plant (HNP) drills and exercises with the North Carolina Division of Emergency Management and Wake, Chatham, Lee, and Harnett county emergency management agencies during monthly task force meetings. In accordance with EPM-210, EP Drill and Exercise Program, the Harris Emergency Preparedness (EP) staff identifies state and county drill participation needs in the fourth quarter of each year and notifies the affected organizations of the need and date(s) of the applicable drills. The EP staff reaches an agreement with the state, county, or other appropriate offsite agency/organization regarding participation in an exercise (for example, scope, FEMA objectives demonstration criteria, and any Areas Requiring Corrective Action from exercise(s) to be closed out). The EP staff reviews drill/exercise objectives; tracks when objectives requiring offsite agency participation are due (for example, biennial exercise, partial participation exercise, or annual medical drill); and coordinates participation with the state and counties. Integrated training drills are conducted between the biennial exercises to ensure adequate emergency response capability is maintained. State and county participation in the integrated drills is encouraged as a positive training opportunity for both site personnel and offsite agencies. However, the degree of participation by offsite agencies during the conduct of integrated drills may vary and is dependent on their availability. The EP staff may contact the state and counties directly to determine if they're available to participate. The degree of participation by outside agencies may vary, and their actions may actually be simulated (i.e., via a control cell which is established by EP).

If state and county agencies desire to participate in any drill or exercise, they may make a request to the EP staff and coordinate activities directly with the site.

C. In the event of an inadequate demonstration of an exercise objective or unsatisfactory test of the biennial exercise, Progress Energy will participate in and support the conduct of activities that are designed to address the deficient or weak demonstrations. In accordance

with EPM-210, EP Drill and Exercise Program, the Supervisor – Emergency Preparedness is responsible for initiating follow-up actions to correct the exercise deficiency. All deficiencies and weaknesses are to be documented and corrected. The Supervisor-Emergency Preparedness will ensure that the exercise deficiency is addressed and tracked per CAP-NGGC-0200, Corrective Action Program. The Supervisor-Emergency Preparedness and Drill/Exercise Coordinator will coordinate actions necessary to remediate the exercise deficiency, including planning/scheduling a remedial exercise to demonstrate implementation of corrective actions as appropriate.

D. Progress Energy currently schedules and conducts a biennial exercise to support Harris Unit 1, in accordance with the requirements of 10CFR50, Appendix E, Section IV.F.2 (b) and (c). Progress coordinates the scheduling and conduct of the biennial exercise with the offsite agencies to ensure appropriate participation by each offsite organization having a role as described in the emergency plan. In accordance with 10CFR50, Appendix E, Section IV.F.2.a (iii), and to support the exercise(s) required prior to fuel load for Unit 2 and Unit 3, Progress plans to conduct either a full or partial participation exercise with participation by offsite agencies to satisfy the requirements of Part 2.A (iii) within one (1) year of loading fuel on Units 2 and 3. The ultimate goal is to coordinate these required exercises and adjust the required dates to minimize the impact on offsite agencies. However, if necessary, Progress will conduct additional exercises, as required, to meet 10CFR50, Appendix E periodicity and participation requirements. FSAR Table 13.4-201, "Operational Programs Required by NRC Regulations," will be revised to reference 10CFR50, Appendix E, Section IV.F.2.a(iii), rather than (ii) in order to allow partial as well as full participation exercises to maximize future flexibility.

Associated HAR COL Application Revisions:

The following change will be made to the Unit 2 and Unit 3 FSAR in a future amendment:

Revise Table 13.4-201, "Operational Programs Required by NRC Regulations," to reference 10CFR50, Appendix E, Section IV.F.2.a(iii) rather than (ii).

Attachments/Enclosures:

None.

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-71 – Site 15

Text of NRC RAI:

A. Section O.3, "Offsite Organizations," (page O-2) of the HNP Emergency Plan identifies offsite organizations receiving radiation training however the local news media was not specifically identified. Explain the radiological orientation training program made available to the local news media.

PGN RAI ID #: H-0244

PGN Response to NRC RAI:

A. The radiological orientation training program made available to the local news media happens on an annual basis. As described in the HNP Emergency Plan, Section G, Public Education and Information, specifically Section G.1, Harris Nuclear Plant, "HNP, in cooperation with State and county emergency management, conducts an annual program to acquaint the media with the emergency plans, information concerning radiation protection, and points of contact for release of public information during an emergency". This annual program is conducted via distributing to the public, including the news media, an annual safety information brochure, which contains educational information on emergency preparedness, sheltering, sirens, and radiation, including telephone numbers of agencies to contact for additional information. HNP also provides necessary radiation training and orientation, at the plant, to members of the local news media that choose to participate.

Associated HAR COL Application Revisions:

No COLA revisions have been identified associated with this response.

Attachments/Enclosures:

None.

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-72 – Site 16

Text of NRC RAI:

Table 1.9-202, "Conformance with SRP Acceptance Criteria," in Part 2 of the COL Application indicates that the Section 13.3, "Emergency Planning," is acceptable from a design certification perspective. However, the SRP Acceptance Criteria related to Emergency Planning in Section 13.3 of the NUREG-0800, Standard Review Plan," (SRP) were not evaluated against the content of Part 5, "Emergency Plan," of the COL Application. Identify all differences between the HNP Emergency Plan and SRP Chapter 13.3, "Emergency Planning." Where differences exist, discuss how the proposed alternative provides an acceptable method of complying with applicable regulations, or portions of the regulations.

PGN RAI ID #: H-0245

PGN Response to NRC RAI:

FSAR Table 1.9-202, Item 13.3, documents conformance to SRP, Rev. 3, 03/2007. Notes (d) and (e) address AP1000 conformance to design aspects of SRP 13.3. Specifically, as indicated in WCAP-15799, SRP 13.3 is not applicable to the AP1000 design. The term "Acceptable" under "FSAR Position" in Table 1.9-202 indicates acceptable HAR conformance with the plant or site-specific aspects of SRP 13.3, Rev. 3, 03/2007, as indicated by Note (f). There are no exceptions to the SRP Acceptance Criteria.

Associated HAR COL Application Revisions:

No COLA revisions have been identified associated with this response.

Attachments/Enclosures:

None.

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-73 – Site 17

Text of NRC RAI:

A. COL Action Item 13.3-1 in NUREG-1793, "Final Safety Evaluation Report Relating to Certification of the AP1000 Standard Design," states in part that the COL applicants that reference the AP1000 certified design will address communication interfaces associated with the TSC. Explain why this aspect of the COL Action Item was not captured in STD COL 13.3-1.

B. COL Action Item 13.3.3.3.5-1 in NUREG-1793, "Final Safety Evaluation Report Relating to Certification of the AP1000 Standard Design," states: "Combined license applicants referencing the AP1000 certified design will address activation of the emergency operations facility consistent with current operating practice and NUREG-0654/FEMA-REP-1." Section 13.3, "Emergency Planning," of Part 2 of the FSAR states in STD COL 13.3-2 states: "The emergency plan describes the plans for coping with emergency situations, including communication interfaces and staffing of the emergency operations facility." Discuss the relationship between the two Information Items. For example, while COL Action Item 13.3.3.3.5-1 addresses activation of the emergency operations facility, STD COL 13.3-2 addresses staffing and communication interfaces of the emergency operations facility.

PGN RAI ID #: H-0246

PGN Response to NRC RAI:

A. COL Action Item 13.3-1 in NUREG-1793 and Subsection 13.3.1 of the AP1000 DCD address communications interfaces associated with emergency planning in general. Although communications interfaces in the TSC comprise one subset of this information, these references do not specifically address the TSC.

   STD COL 13.3-1 indicates, in part, that, "The emergency planning information is submitted to the Nuclear Regulatory Commission as a separate licensing document." Therefore, the COL Emergency Plan is expected to address the communications interfaces associated with emergency planning consistent with STD COL 13.3-1. The COL Emergency Plan addresses communications interfaces primarily in Section E, which discusses emergency notification methods, and Section F, which discusses various emergency communication systems, their locations, reliability, and periodic tests. The COL Emergency Plan addresses specific aspects of emergency communications in numerous additional sections, including Sections A.1, A.3, A.5.2, A.6.4, Table A-1, B.2, B.4.2, B.4.4, Table B-1, C.1.1.3, C.2, C.3, E, H, J, L, M, N, Annex 1, Annex 2, and Appendix 5.

B. Within the Shearon Harris Nuclear Power Plant Emergency Plan, the concept of "activation" as used in NUREG-1793 and the AP1000 DCD includes the activities of notifying the appropriate emergency response personnel, staffing the emergency response facility, establishing the required communications interfaces, and declaring the facility to be operational. With regard to the EOF, these activities are addressed in COL Emergency Plan Sections B.4.4, Tables E.2 through E-4, F, H.1.4, H.2, and Appendix 1 (definition of

"activate"). Emergency Plan implementing procedure PEP-270, Activation and Operation of the Emergency Operations Facility, provides the detailed procedural guidance that is addressed in summary in Emergency Plan Sections B.4.4, H.1.4, and H.2.

Associated HAR COL Application Revisions:

No COLA revisions have been identified associated with this response.

Attachments/Enclosures:

None.

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-74 – Site 18

Text of NRC RAI:

A. Part 5, "Emergency Planning," Supplemental Information, "Part 5 Emergency Plan- Cross Reference Document," (p. 60 of 64) is titled "Part 13, NRC Bulletin 2005-04."
Please confirm that the correct reference is to NRC Bulletin 2005-02.

B. In the Bellefonte Emergency Plan, the Reference COLA for the Harris Nuclear Plant, in Section J.6, "Protective Measures," it states (on p. II-46) that:

> In the event of a hostile attack against the site, conditions may dictate initiation of protective measures other than personnel assembly, accountability and evacuation. The SED makes decisions regarding appropriate protective measures based on evaluation of site conditions, including input from the security force. If based on the judgment of the SED, personnel assembly, accountability, and evacuation may result in undue hazards to site personnel, the SED may direct other protective measures, including:
>
> - Evacuation of personnel from areas and buildings perceived as high- value targets
> - Site evacuation by opening, while continuing to defend, security gates
> - Dispersal of key personnel
> - On-site sheltering
> - Staging of ERO personnel in alternate locations pending restoration of safe conditions
> - Implementation of accountability measures following restoration of safe conditions

Discuss whether these or similar actions are appropriate for Harris Units 2 and 3 and should be included in the emergency plan.

PGN RAI ID #: H-0247

PGN Response to NRC RAI:

A. Part 5, "Emergency Planning," Supplemental Information, "Part 5 Emergency Plan-Cross Reference Document," (p. 60 of 64) is titled "Part 13, NRC Bulletin 2005-04." This is a typo in the cross-reference and will be corrected in a future amendment to the cross-reference. The correct reference is to NRC Bulletin 2005-02, as shown throughout the HNP Emergency Plan.

B. Progress Energy has determined that actions similar to those describing a hostile attack in Section J.6 of the Bellefonte Emergency Plan (Reference COLA for the Harris Nuclear Plant) are appropriate for insertion into Section J.1.2 of the Harris Nuclear Plant, Part 5 COL

Emergency Plan. This information enhances decision-making during the evacuation and accountability process if the site is in a security event.

Associated HAR COL Application Revisions:

The following changes will be made to the HAR EP in a future amendment:

1. Revise the title of the Supplemental Information, "Part 5 Emergency Plan-Cross Reference Document," (p. 60 of 64) from:

Part 13, NRC Bulletin 2005-04

To read:

Part 13, NRC Bulletin 2005-02.

2. Revise Section J.1.2, Evacuation and Accountability, First Paragraph, from:

"All personnel within the Protected Area will be accounted for within 30 minutes of the declaration of a Site Area Emergency or General Emergency and continuously thereafter during the emergency (accountability may be accomplished at any time prior to the declaration of a Site Area Emergency, if deemed appropriate). Assembly and accountability may be delayed during a security event, if the SEC (in consultation with Security) determines that performing accountability could be detrimental to the safety of site personnel. If accountability is delayed, then accountability should be performed immediately when conditions warrant."

To read:

"All personnel within the Protected Area will be evacuated at a Site Area Emergency or General Emergency declaration, or earlier if deemed necessary by the Site Emergency Coordinator (SEC). Any personnel remaining in the Protected Area will be accounted for within 30 minutes of the declaration of a Site Area Emergency or higher and continuously thereafter during the emergency (accountability may be accomplished at any time prior to the declaration of a Site Area Emergency, if deemed appropriate). In the event of a security event, conditions may dictate initiation of protective measures other than personnel evacuation, assembly, and accountability. The SEC makes decisions regarding appropriate protective measures based on evaluation of site conditions, including input from Security. If based on SEC judgment, personnel evacuation, assembly and accountability may result in undue hazards to site personnel, the SEC may direct other protective measures including:

- Evacuation of site personnel, as appropriate
- Site evacuation while continuing to defend security gates
- Dispersal of key personnel
- Onsite sheltering as appropriate
- Staging of ERO personnel in alternate locations pending restoration of safe conditions
- Implementation of accountability measures following restoration of safe conditions."

Attachments/Enclosures:

None.

NRC Letter No.: HAR-RAI-LTR-048

NRC Letter Date: November 13, 2008

NRC Review of Final Safety Analysis Report

NRC RAI #: 13.03-75 – ITAAC 19

Text of NRC RAI:

A. Some EP ITAAC will be completed for Unit 2 before those for Unit 3. To allow closure of the common ITAAC for both units when Unit 2 is constructed, was the development of separate ITAAC tables for each unit considered so that the common ITAAC would not need to stay open until Unit 3 is constructed?

B. Table 3.8-1, "Inspections, Tests, Analyses, and Acceptance Criteria," in Part 10 of the COL Application, the acceptance criteria are prefaced either with the phrase, "Test records demonstrate ..." or "Report exists and concludes ..." The goal of ITAAC Acceptance Criteria is to be objective criteria that can be demonstrated to have been met prior to fuel load. The Acceptance Criteria must be specific and sufficiently objective, in order to clearly identify what the requirements are, and to provide the ability to determine whether they have been met. In RIS 2008-05, "Lessons Learned to Improve Inspections, Tests, Analyses, and Acceptance Criteria Submittal," February 27, 2008, the following guidance is provided in regard to the use of such a phrase:

> If applicants use the phrase, "a report exists and concludes that ...," they should consider specifying the scope and the type of report. For example, they should explain whether the scope of the report includes the design, the as-built construction (as reconciled with the design), or any other information.

The use of phrases "test records demonstrate" or "a report exists that confirms" in the Acceptance Criteria does not clearly describe how verification is actually conducted to confirm that the acceptance criteria are met. An area that might be appropriate for using a report to confirm that various ITAAC have been met is Planning Standard 8.0, "Exercises and Drills," for which an Exercise Report could serve to verify that various exercise-related ITAAC (e.g., exercise objectives) have been met.

Consistent with RIS 2008-05, discuss the type and scope of the reports cited in ITAAC Table 3.8-1, including how the report will serve to provide accurate and reliable confirmation that the Acceptance Criteria have been met, or consider removing the words "test records demonstrate" or "a report exists that confirms" from the Table, to create specific and sufficiently objective Acceptance Criteria. The removal of the reference to future reports will provide for objective ITAAC Acceptance Criteria, and leave open the specific method(s) that the licensee will use to confirm that the ITAAC acceptance criteria have been met.

C. Table 3.8-1, "Inspections, Tests, Analyses, and Acceptance Criteria," in Part 10, "Proposed Combined License Conditions (Including ITAAC)," of the COL Application provides three separate acceptance criteria for planning standard 8.0, "Exercises and Drills." Address the following questions pertaining to the full-participation exercise, and the applicable guidance provided in Regulatory Guide (RG) 1.206, Appendix B, Table C.II.1-B1, "Emergency Planning – Generic Inspection, Test, Analysis, and Acceptance Criteria (EP-ITAAC)."

C.1 Table C.II.1-B1, acceptance criterion 14.1.2, includes the bracketed statement that "[t]he COL applicant will identify responsibilities and associated acceptance criteria." Explain why Table 3.8-1, acceptance criterion 8.1.2, does not identify any responsibilities and associated acceptance criteria, in relation to onsite emergency response personnel successfully performing their assigned responsibilities. Either provide the appropriate acceptance criterion, or explain why it is not required.

C.2 Table C.II.1-B1, acceptance criterion 14.1.1, includes the bracketed statement that "[t]he COL applicant will identify exercise objectives and associated acceptance criteria." Table 3.8-1 acceptance criterion 8.1.1 states that exercise objectives have been met for each of the listed emergency planning program elements. However, Table 3.8-1 does not identify (in the acceptance criteria) what the associated acceptance criteria are (as called for in Table C.II.1-B1). The goal of ITAAC acceptance criteria is to be objective criteria that can be demonstrated to have been 'met' prior to fuel load. The acceptance criteria must be specific and sufficiently objective, in order to clearly identify what the requirements are, and to provide the ability to determine whether they have been met. As written, the acceptance criterion 8.1.1 does not provide such clear and objective criteria. For the full participation exercise acceptance criteria in Table 3.8-1, provide specific exercise objectives and associated acceptance criteria, consistent with Table C.II.1-B1. Either provide the appropriate acceptance criterion, or explain why it is not required.

D. EP Program Element 3.2 of Table 3.8.1, "Inspections, Tests, Analyses, and Acceptance Criteria," states that the means exists for communications from the control room, TSC, and EOF to NRC Headquarters and regional office EOCs (including establishment of the Emergency Response Data System (ERDS) between the onsite computer system and the NRC Operations Center. The "Inspection, Tests, and Analysis" for the EP Program Element is a note that states that the ITAAC for these communications systems are addressed in Table 3.1-1, "Inspections, Tests, Analyses, and Acceptance Criteria," of the Tier 1 Material in the AP1000 Design Control Document, Rev.16. However, ITAAC number 2 in Table 3.1-1, "Inspections, Tests, Analyses, and Acceptance Criteria," states that the TSC has voice communication equipment for communication with the control room, EOF, OSC, and NRC. Provide additional details regarding the establishment of communications with the regional NRC EOC and ERDS between the onsite computer and the NRC Operations Center.

E. Table C.II.1-B1, " Emergency Planning-Generic Inspection, Test, Analysis, and Acceptance Criteria (EP-ITAAC)," in Appendix C.II.1-B, "Development Guidance for Emergency Planning ITAAC," to RG 1.206 contains the generic EP-ITAAC table. The table lists 17 Planning Standards and the accompanying EP Program Elements, Inspection, Tests, Analysis, and Acceptance Criteria. The COL application EP-ITAAC does not address eight of the generic ITAAC Planning Standards. The following generic ITAAC Planning Standards are not addressed:

1. Assignment of Responsibility-Organizational Control--10 CFR 50.47(b)(1) An inspection of the implementing procedures or staffing rosters will be performed.

2. Onsite Emergency Organization--10 CFR 50.47(b)(2) An inspection of the implementing procedures or staffing rosters will be performed.

3. Emergency Response Support and Resources--10 CFR 50.47(b)(3) Provide letters of agreement or other documentation that demonstrates arrangement have been made for requesting and effectively using assistance resources, arrangements to accommodate local and state staff at the licensee's near site Emergency Operations Facility have been

made, and other organizations capable of augmenting the planned response have been identified.

4. Radiological Exposure Control--10 CFR 50.47(b)(11) A test will be performed of the capabilities

5. Medical and Public Health--10 CFR 50.47(b)(12) A test will be performed of the capabilities

6. Recovery an Reentry Planning and Post Accident Operations --10 CFR 50.47(b)(13) A report exists that confirms the Recovery and Reentry and Post Accident Operations plans have been demonstrated.

7. Radiological Emergency Response Training--10 CFR 50.47(b)(15) An inspection will be performed to verify the emergency response training program meets the applicable standards for those who may be called upon to assist in an emergency and that procedures for the conduct and evaluation of the training program exist and records of training offered and conducted exists.

8. Responsibility for Planning Effort: Development, Periodic Reviews, and Distribution of Emergency Plan --10 CFR 50.47(b)(16) An inspection of the Emergency Plan distribution will be performed to insure all agencies identified in the Emergency Plan have been provided a copy of the final, approved plan and any subsequent revisions, changes, supplements, or amendments.

Discuss why ITAAC were not developed for the above Planning Standards, or propose an ITAAC.

PGN RAI ID #: H-0248

PGN Response to NRC RAI:

A. ITAAC will be included in the operating license issued to each Unit as a license condition to be closed specific to that unit. As such, the EP ITAAC do not need to be unit-specific. Closure documentation for each ITAAC will address the applicability to one or both units.

B. The use of the phrase, "test records demonstrate.." was considered to be specific and sufficiently objective Acceptance Criteria, since the Inspections, Tests, and Analyses in these cases consist of a test of capabilities of systems or procedures to accomplish the requirements of the planning standard and EP program elements. The use of the phrase, "a report exists and concludes.." was incorporated into the Acceptance Criteria in Table 3.8-1 for consistency with Acceptance Criteria presented in the AP1000 Design Certification Document. Upon further review, it has been determined that those Acceptance Criteria using the phrases, "a report exists and concludes..." or "test records demonstrate..." will be removed from the Acceptance Criteria in Table 3.8-1 and replaced with objective acceptance criteria, similar to those used in other license applications.

C.1 The COL Application Emergency Plan provides information regarding the onsite emergency response organization and associated responsibilities in Sections B.1 through B.4. A clarifying note will be added to Acceptance Criteria 8.1.2, as identified below.

C.2 In order to determine that future exercise objectives are sufficient for a comprehensive test of the COL Application Emergency Plan, a list of EP Program Elements that must be tested is provided, including developing exercise objectives and specific acceptance criteria in Acceptance Criteria 8.1. Additionally, other Acceptance Criteria in Table 3.8-1 provide details directly related to specific objectives that must be met. Acceptance Criteria 2.1 and 2.2 address specific notification methods and procedures, Acceptance Criteria 3.1 and 3.2 address specific emergency communication objectives, and Acceptance Criterion 6.1 speaks directly to accident assessment and classification and radiological assessment and control.

Exercise planning and conduct is a cooperative effort with State and local agencies. Integral to this planning effort is the development of specific exercise objectives. Considering that it will be several years before the full participation exercise required prior to fuel loading is conducted, the development of specific exercise objectives will be undertaken when the full participation exercise planning effort is initiated with the State and local agencies.

D. Communications with the regional NRC EOC utilizes the Emergency Notification System (ENS) as described in Section F of the Emergency Plan. The ERDS plant performance data is collected by the AP1000 Data Display System (DDS) and then provided to the NRC Operations Center via ERDS. ERDS is described in Section F of the Emergency Plan. The protocol and means for transmitting the data will be in accordance with NUREG-1394 Revision 1 or the NRC guidance provided by the NRC ERDS Modernization project. Note that the Shearon Harris site is a test site for ERDS Modernization Phase II. The DCD, Tier 1, ITAAC represents a commitment to provide data to the NRC, which includes the regional NRC EOC and the NRC Operations Center, supporting oversight and assessment.

E. Progress Energy relied on the Emergency Planning (EP) ITAAC agreed to between the NRC staff and industry documented in SECY-05-0197, "Review of Operational Programs in a Combined License Application and Generic Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria." One of the stated purposes of SECY-05-0197 was to "Allow the use of proposed generic emergency planning/emergency preparedness (EP) inspections, tests, analyses, and acceptance criteria (ITAAC) as a model for inclusion in COL applications."

Progress Energy recognizes that additional EP ITAAC were included in the guidance offered in Regulatory Guide 1.206, but found through review that the additional ITAAC were already adequately addressed in the set of EP ITAAC proposed, as discussed below:

Items 1 and 2: Responsibilities for performance of an integrated emergency response are demonstrated during an evaluated exercise as required by COLA Part 10 (ITAAC) Table 3.8-1, item 8.0. The Emergency Plan contains descriptions of the response team staffing and responsibilities. The clarifying note added to acceptance criteria 8.1.2, as discussed in the earlier response to question C.1 of this RAI, strengthens the acceptance criteria.

Item 3: The Emergency Plan submitted as Part 5 of the COLA included Certification Letters as Supplemental Information in which supporting organizations have documented their commitment to support the licensee. The integrated response is also demonstrated in the evaluated exercise required by ITAAC Table 3.8-1, item 8.0.

Item 4: An evaluated exercise as required by ITAAC Table 3.8-1, item 8, requires Protective Action Guidelines to be utilized. The Protective Action Guidelines for emergency workers are often included and demonstrated during evaluated exercises. Most often NRC Emergency Planning Inspection teams confirm that implementing procedures include dose extension and approval guidance for emergency workers. The use of inspection procedures and exercise demonstrations are the preferred way to confirm this emergency planning standard.

Item 5: The Emergency Plan contains agreements from Rex Healthcare, WakeMed Cary Hospital and WakeMed Raleigh addressing arrangements for treating contaminated injured workers. Testing of medical capabilities is not included as an ITAAC; however, this capability must be tested annually as required by COL Emergency Plan subsection II.N.2.c.

Item 6: Emergency Plan implementing procedures are required to include recovery and reentry guidance. NRC Emergency Planning inspections confirm the guidance exists in licensee procedures. ITAAC Table 3.8-1, acceptance criterion 8.1.1 specifically lists Recovery and Reentry as an element to be tested.

Item 7: The NRC Emergency Planning Inspectors periodically observe emergency planning training, inspect training records and compare rosters with training records to confirm individuals are completing required training. This method of verification is the accepted practice to confirm licensee actions are acceptable. Additionally, the effectiveness of training is specifically addressed through the exercise performance demonstrations required in ITAAC Table 3.8-1 acceptance criterion 8.1.2.

Item 8: The NRC Emergency Planning Inspectors periodically confirm emergency plan implementing procedures are distributed to supporting agencies and response centers. This is an important activity, but is administrative in nature and not appropriate for an ITAAC.

Associated HAR COL Application Revisions:

The proposed revision to the wording for the Acceptance Criteria is shown in Attachment 13.03-75A. Additional editorial changes have been made to clarify whether or not a drill or exercise are involved in meeting the Acceptance Criteria, use a consistent verb tense throughout the table's Acceptance Criteria statements, and revise and expand certain acceptance criteria to provide additional detail and specific information. These revisions will be incorporated in a future update to the Harris COLA.

Attachments/Enclosures:

Attachment 13.03-75A: Proposed Revisions to Part 10, License Conditions and ITAAC, Table 3.8-1, Inspections, Tests, Analyses, and Acceptance Criteria

List of Attachments/Enclosures:

1. NRC RAI # 13.03-59/SITE-1 (PGN RAI ID #H-0232):
   Attachment 13.03-59A: Table A-1 (Revised) (2 pages)

2. NRC RAI # 13.03-59/SITE-1 (PGN RAI ID #H-0232):
   Attachment 13.03-59B: Figure A-2 (Revised) (1 page)

3. NRC RAI # 13.03-59/SITE-1 (PGN RAI ID #H-0232):
   Attachment 13.03-59C: Letter of Agreement - INPO (1 page)

4. NRC RAI # 13.03-59/SITE-1 (PGN RAI ID #H-0232):
   Attachment 13.03-59D: Letter of Agreement - National Weather Service (3 pages)

5. NRC RAI # 13.03-59/SITE-1 (PGN RAI ID #H-0232):
   Attachment 13.03-59E: Signature Page - Atlantic Group (1 page)

6. NRC RAI # 13.03-59/SITE-1 (PGN RAI ID #H-0232):
   Attachment 13.03-59F: Letter of Agreement - Washington Group (2 pages)

7. NRC RAI # 13.03-59/SITE-1 (PGN RAI ID #H-0232):
   Attachment 13.03-59G: Signature Page - Murray and Trettel (1 page)

8. NRC RAI # 13.03-59/SITE-1 (PGN RAI ID #H-0232):
   Attachment 13.03-59H: Signature Page - Westinghouse Electric Corporation (1 page)

9. NRC RAI # 13.03-59/SITE-1 (PGN RAI ID #H-0232):
   Attachment 13.03-59I: Letter of Agreement - Weather Services International (1 page)

10. NRC RAI # 13.03-60/SITE-2 (PGN RAI ID #H-0233):
    Attachment 13.03-60A: HAR EP Figure B-2 (Revised) (1 page)

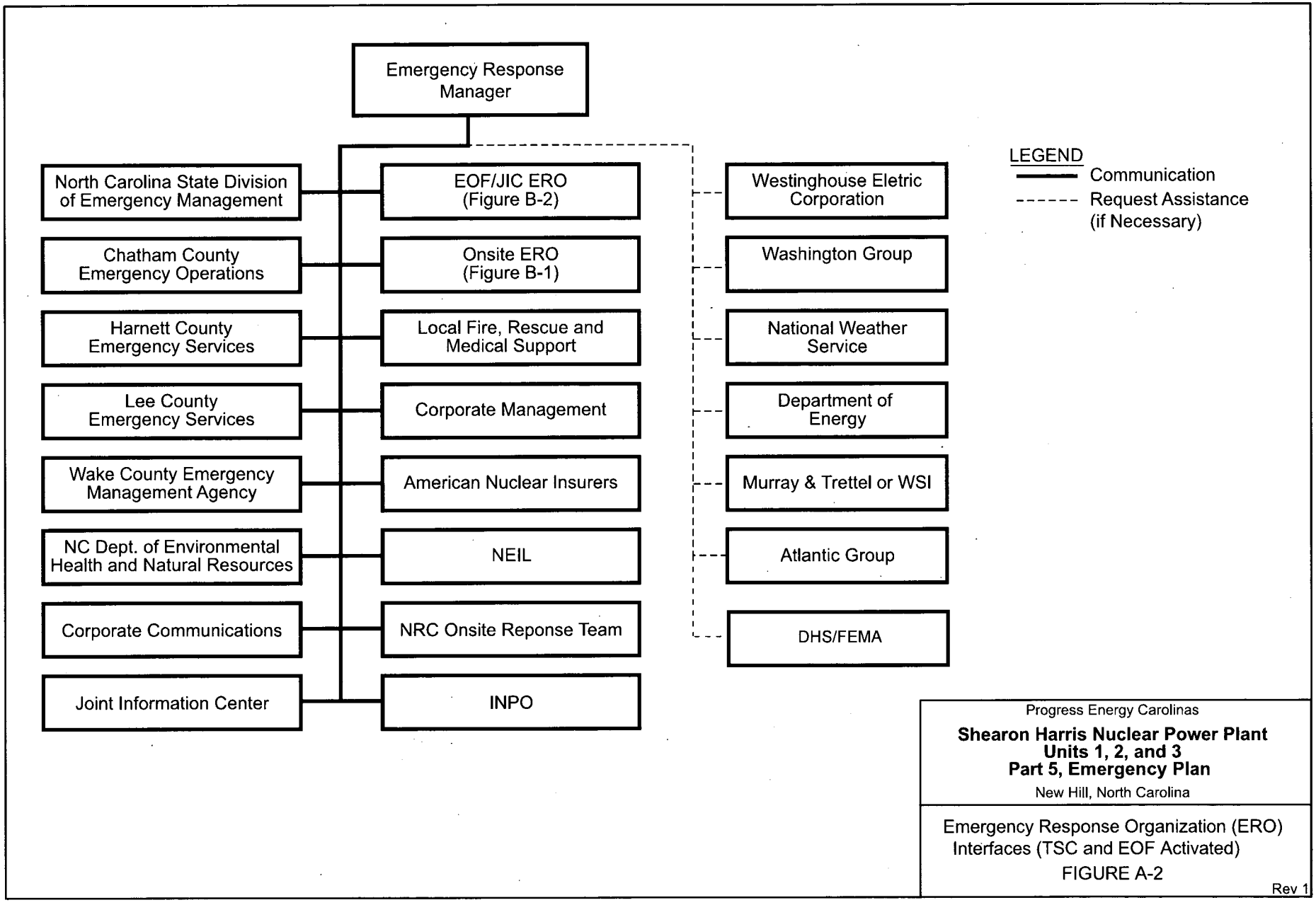
11. NRC RAI # 13.03-75/ITAAC-19 (PGN RAI ID #H-0232):
    Attachment 13.03-75A: Proposed Revisions to Part 10, License Conditions and ITAAC, Table 3.8-1, Inspections, Tests, Analyses, and Acceptance Criteria (26 pages)

Table A-1 (Sheet 1 of 2)
Organizations Participating in Emergency Response

Organization	Contact	Location for Response	Approximate Response Time	Agent for Initial Notification
HNP	Site Emergency Coordinator	Control Room	5 Minutes	Superintendent — Shift Operations
Corporate Communications	On-call Corporate Communications	Corporate Office, Raleigh	1-2 Hours	On-call Corp. Communications
Nuclear Regulatory Commission	1. Emergency Office (HQ) 2. Base Team Mg (Reg.)	NRC Ops. Center Incident Response Center	Immediate Immediate	HQ Duty Officer Regional Duty Officer
Nuclear Regulatory Comm. (Site Team)	1. Director-Site Team Ops. 2. Interim Director	EOF, New Hill EOF, New Hill	5-8 Hours 60-75 Minutes	Dir. Of Site Team Ops. Resident Inspector
State Emergency Response Team	SERT Coordinator	Division Emergency Management Headquarters, Raleigh	2 Hours	Highway Patrol Communications Center
Chatham County EOC	County Board Chairman	County Law Enforcement Center	1 1/4 — 2 Hours	County Communications Center, Pittsboro
Harnett County EOC	County Board Chairman	County Law Enforcement Bldg.	1 1/4 — 2 Hours	Sheriff's Department, Lillington
Lee County EOC	County Board Chairman	Sanford Municipal Center, Sanford	1-3 Hours	Lee County Sanford Municipal Center, Sanford
Wake County EOC	County Board Chairman	County Courthouse, Raleigh	1-2 Hours	Raleigh Comm. Center
Apex Rescue Squad	Captain	HNP	30-45 Minutes	Raleigh Comm. Center
Apex Volunteer Fire Department	Captain	HNP	20 minutes	Raleigh Comm. Center
Holly Springs Dept. Of Public Safety Division of Municipal Fire Services	Fire Chief	HNP	30-45 Minutes	Raleigh Comm. Center
Atlantic Group	Designated Staff	HNP	3-5 Hours	District Manager

Table A-1 (Sheet 2 of 2)
Organizations Participating in Emergency Response

Organization	Contact	Location for Response	Approximate Response Time	Agent for Initial Notification
National Weather Service	Designated Staff	Raleigh, NC	phone contact	Raleigh, NC
Murray and Trettel	Designated Staff	North Field, Illinois	phone contact	North Field, Illinois
Weather Service International (WSI)	Designated Staff	Landover, Maryland	phone contact	Corporate Headquarters Landover, Maryland
Washington Group	Manager of Projects	HNP	3-5 Hours	District Manager
Rex Hospital	Emergency Room	Rex Hospital, Raleigh	30-45 Minutes	Rex Emergency Room or Raleigh Comm. Center
WakeMed Raleigh (WMR)	Emergency Room	WMR, Raleigh	30-45 Minutes	WMR Emergency Room or Raleigh Comm. Center
WakeMed Cary (WMC)	Emergency Room	WMC, Cary	20-30 Minutes	WMC Emergency Room or Raleigh Comm. Center
Westinghouse Electric Corporation	Emergency Response Director	Command Center Monroeville, PA	8-16 Hours	Regional Service Manager, Southern Service Region, Atlanta
Institute of Nuclear Power Operations (INPO)	Designated Staff	HNP	5-8 Hours	INPO representative – 24-hour emergency call number.
U.S. Department of Energy (DOE)	Designated Staff	HNP	5-8 Hours	Region Operations Manager - Aiken, SC
Federal Emergency Management Agency (FEMA)/Department of Homeland Security (DHS)	Designated Staff	HNP	5-8 Hours	Regional Operations Manager - Atlanta, GA



Progress Energy Carolinas

Shearon Harris Nuclear Power Plant
Units 1, 2, and 3
Part 5, Emergency Plan

New Hill, North Carolina

Emergency Response Organization (ERO) Interfaces (TSC and EOF Activated)

FIGURE A-2

Rev 1

INPO®

Institute of
Nuclear Power
Operations

Suite 100
700 Galleria Parkway, SE
Atlanta, GA 30339-5943
770-644-8000
FAX 770-644-8549

September 30, 2008

Dear Ladies and Gentlemen:

This letter certifies that the plant emergency assistance agreement between INPO and its member utilities remains in effect. In the event of an emergency at your utility, INPO will assist you in acquiring the help of other organizations in the industry, as described in Section 1 of the Emergency Resources Manual, INPO 03-001. If requested, INPO will provide the following assistance:

- Facilitate technical information flow from the affected utility to the nuclear industry.
- Locate replacement equipment and personnel with technical expertise.
- Obtain technical information and industry experience regarding plant component and systems.
- Provide an INPO liaison to facilitate interface.

This agreement will remain in effect until terminated in writing. Should you have questions, please call Mark Lemke at (770) 644-8761 or e-mail lemkems@inpo.org.

Sincerely,

George Felgate
Vice President
Operations Division

GF:jkm

Letter of Agreement Update/Verification for Year 2008 November/2007

Mr. Robert Duncan., Vice President of the Harris Nuclear Plant
Harris Nuclear Plant/Zone 1
5413 Shearon Harris Road
New Hill, North Carolina 27562

Dear Mr. Duncan,

This acknowledges that the National Weather Service Letter of Agreement with the Harris Nuclear Plant remains valid through December 31, 2008. Contacted Darin Figurskey of the National Weather Service to verify information is current and they were in agreement for the end date of the agreement.

Sincerely yours,

Mitch Burton
Senior Emergency Preparedness Specialist

Note: See Letter of Agreement on file signed on January 20, 2006 by Cornelius J. Gannon, Jr.(HNP) and Dean P. Gulezian (NWS)

MJB/mjb

Memorandum Of Agreement
Support to Progress Energy Harris Nuclear Plant
During a Nuclear Incident

This agreement is entered into between the National Weather Service Forecast (NWS) Office at Raleigh, NC and Progress Energy Company Harris Nuclear Plant, (HNP). The agreement identifies certain responsibilities of both the NWS and Progress Energy in providing weather support during a nuclear incident at the HNP.

I. GENERAL:

A. The NWS may be called upon to provide meteorological observations and forecasts, severe weather and flooding information, and atmospheric sounding support - within capabilities and resources, to the HNP in the event a nuclear incident or emergency. The following is a list of unlisted telephone numbers, for office use only, that can be used to reach the Raleigh NWS office.

919-515-8200

919-515-8203

B. The following is a list of the NWS Forecast Offices that can provide backup weather services in the event the Raleigh NWS office can not respond to a request for information:

Primary

Blacksburg, VA (540) 552-1341 and (800) 221-2856

Secondary (effective January 12, 2005)

Wakefield, VA (757) 899-5731 and (757) 899-5734

II. PROGRESS ENERGY AGREES

A. To notify the NWS in Raleigh or any of the backup offices listed in I. above of the following required information: location and magnitude of the incident; time of occurrence of the incident; and, name affiliation and the phone number of the requesting/authorizing official of Progress Energy to allow authentication of the information provided. An authentication code may also be required. An authentication list has been distributed to NWS Raleigh and its backup offices.

B. To provide the NWS with a telephone number to access plant officials for the purpose of relaying pertinent weather information.

C. To notify the NWS upon termination of the emergency or incident.

SIGNED EARLIER THIS YEAR

III. THE NATIONAL WEATHER SERVICE AGREES:

A. Upon notification from Progress Energy, to discuss with the contacting plant officials the required support action.

B. To provide meteorological support, usually in the form of:

1. Aviation forecasts for aircraft observation and support missions.

2. Site weather forecasts, severe weather information and observation of precipitation.

3. Estimates of low level stability, transport winds, inversion height and mixing height within the scope of the current NWS observing network.

C. To provide hydrological support, usually in the form of flood, river stage and discharge forecasts within the scope of the current NWS observing and forecast network.

All information will be disseminated to Progress Energy by NWS by telephone briefing or by Progress Energy arranging for a personal briefing at the NWS Office.

IV. AMENDMENTS:

This agreement may be amended or modified at any time by mutual agreement and signing of the amendment by the parties hereto.

V. EFFECTIVE DATE:

This agreement shall become effective on the last date of the date shown below when executed by both parties hereto. This agreement is valid and binding until terminated by either party upon 60 days prior written notice.

Progress Energy Harris Nuclear Plant	UNITED STATES OF AMERICA Department of Commerce National Oceanic and Atmospheric New Administration National Weather Service
By: _____ James Scarola Vice President Harris Nuclear Plant Progress Energy	By: _____ Dean P. Gulezian Director - Eastern Region National Weather Service Bohemia, NY
Date: _____	Date: _____

Letter of Agreement Update/Verification for Year 2008 November/2007

Mr. Bob Duncan, Vice President of Shearon Harris Nuclear Plant
Harris Nuclear Plant
5413 Shearon Harris Road
New Hill, North Carolina 27562

Dear Mr. Duncan,

This acknowledges that the Atlantic Group contract XTA 9000142 (Passport Number: 3714) is revised at this time. The new contract is in effect until January 31, 2011. This information was provided by the Contract Profile screen in Passport.

Sincerely yours,

Mitch Burton
Emergency Preparedness Specialist

MJB/mjb

Letter of Agreement Update/Verification for Year 2008 December/2007

Mr. Bob Duncan, Vice President of Shearon Harris Nuclear Plant
Harris Nuclear Plant
5413 Shearon Harris Road
New Hill, North Carolina 27562

Dear Mr. Duncan,

This acknowledges that the Washington Group contract XMA 5008000 (Passport Number: 3738) is in effect through December 31, 2008. It has been verified by Maranda Blomqvist, Senior Engineer Technical Support Specialist.

Sincerely yours,

Mitch Burton
Emergency Preparedness Specialist

MJB/mjb

Progress Energy

Washington Group International Inc.
Carnegie Center Drive
Carnegie Center Bldg. 510
Princeton, NJ 08540

Attention: Kevin Colby

CONTRACT NO. 3738
AMENDMENT NO. 08
EFFECTIVE November 28, 2007

This Amendment is governed by the terms and conditions of the above-referenced Contract. By this Amendment, Progress Energy Service Company, LLC, not in its individual capacity, but solely as agent for Progress Energy Carolinas, Inc., (hereinafter "Owner") offers to change the terms of the above-referenced Contract as follows:

This Amendment extends the completion date of the Contract from December 31, 2007 to December 31, 2008.

All other terms in the Contract or other Contract Amendments remain unchanged.

Please execute this Amendment, retain an original for your file, and return the other original within ten (10) calendar days to Carol Shore, Progress Energy Service Company, LLC, P. O. Box 1551 (PEB-2A), Raleigh, NC 27602.

Sincerely,

T.R. Lineback
Supervisor/Strategic Sourcing

TRL/cs

Accepted:

WASHINGTON GROUP INTERNATIONAL INC.

By: Joseph Ruggiero

Name (printed): Joseph Ruggiero

Title: VP, Nuclear Engineering

Date: 12/11/07

WASHINGTON GROUP
LEGAL DEPARTMENT
BY:
DATE: 12/10/07

Should the person's title who is executing this document not indicate that he/she is a corporate officer, an affidavit signed by a corporate officer shall be provided stating that the person whose name appears above is duly authorized to execute Contracts on behalf of the firm.

Letter of Agreement Update/Verification for Year 2008 November/2007

Mr. Bob Duncan, Vice President of Shearon Harris Nuclear Plant
Harris Nuclear Plant/Zone 1
5413 Shearon Harris Road
New Hill, North Carolina 27562

Dear Mr. Duncan,

This acknowledges that the Murray and Trettle, Inc. contract XTA 4000008 (Passport Number: 4157) is in effect through December 31, 2008. This was verified via Maranda Blomqvist at the Harris Site.

Sincerely yours,

Mitch Burton
Emergency Preparedness Specialist

MJB/mjb

Progress Energy

Westinghouse Electric Company, LLC
4350 Northern Pike
Monroeville, PA 15146

Attention: Ms. Janice Hughes

CONTRACT NO. 3382
AMENDMENT NO. 07
EFFECTIVE June 20, 2008

This Amendment is governed by the terms and conditions of the above-referenced Contract. By this Amendment, Progress Energy Service Company, LLC, not in its individual capacity, but solely as agent for Progress Energy Carolinas, Inc. and Progress Energy Florida, Inc., (hereinafter "Owner") offers to change the terms of the above-referenced Contract as follows:

This Amendment incorporates new rates into Contract No. 3382 in accordance with the attached rate schedule.

All other terms in the Contract or other Contract Amendments remain unchanged.

Please execute this Amendment, retain an original for your file, and return the other original within ten (10) calendar days to Tina Talmadge, Progress Energy Service Company, LLC, P. O. Box 1551 (PEB 2C3), Raleigh, NC 27602.

Sincerely,

Tony Lineback

TL/tt

Tony Lineback
Sourcing Generation Manager

Accepted:

Westinghouse Electric Company, LLC

By: F. Ramsey Cortes

Name (printed): F. Ramsey Cortes

Title: Secretary

Date: 7/1/08

Should the person's title who is executing this document not indicate that he/she is a corporate officer, an affidavit signed by a corporate officer shall be provided stating that the person whose name appears above is duly authorized to execute Contracts on behalf of the firm.

Consolidated Service Agreement

This Consolidated Service Agreement ("Agreement"), effective on December 1, 2007, is entered into between Progress Energy Service Company, LLC, a North Carolina limited liability company, with its principal office at 410 South Wilmington Street, Raleigh, NC 27601, in its individual capacity and as agent for Progress Energy, Inc., Progress Energy Carolinas, Inc. and Progress Energy Florida, Inc. (hereinafter "Customer"), and WSI Corporation, a Massachusetts corporation, with offices at 400 Minuteman Road, Andover, MA 01810 (hereinafter "WSI").

This Agreement is based in the following understandings:

A. WSU and Customer desire to enter into this Contract for the purpose of setting forth the general terms and conditions under which WSI will provide Services as may be authorized by Customer.
B. WSI represents itself as qualified and equipped to render weather forecasting and reporting services and tools to Customer.

In consideration for the Service(s) to be provided by WSI and the payments to be made by Customer (as contained in Attachment A and made a part of this Agreement), and the other promises set forth below, the parties agree as follows.

I. DEFINITIONS

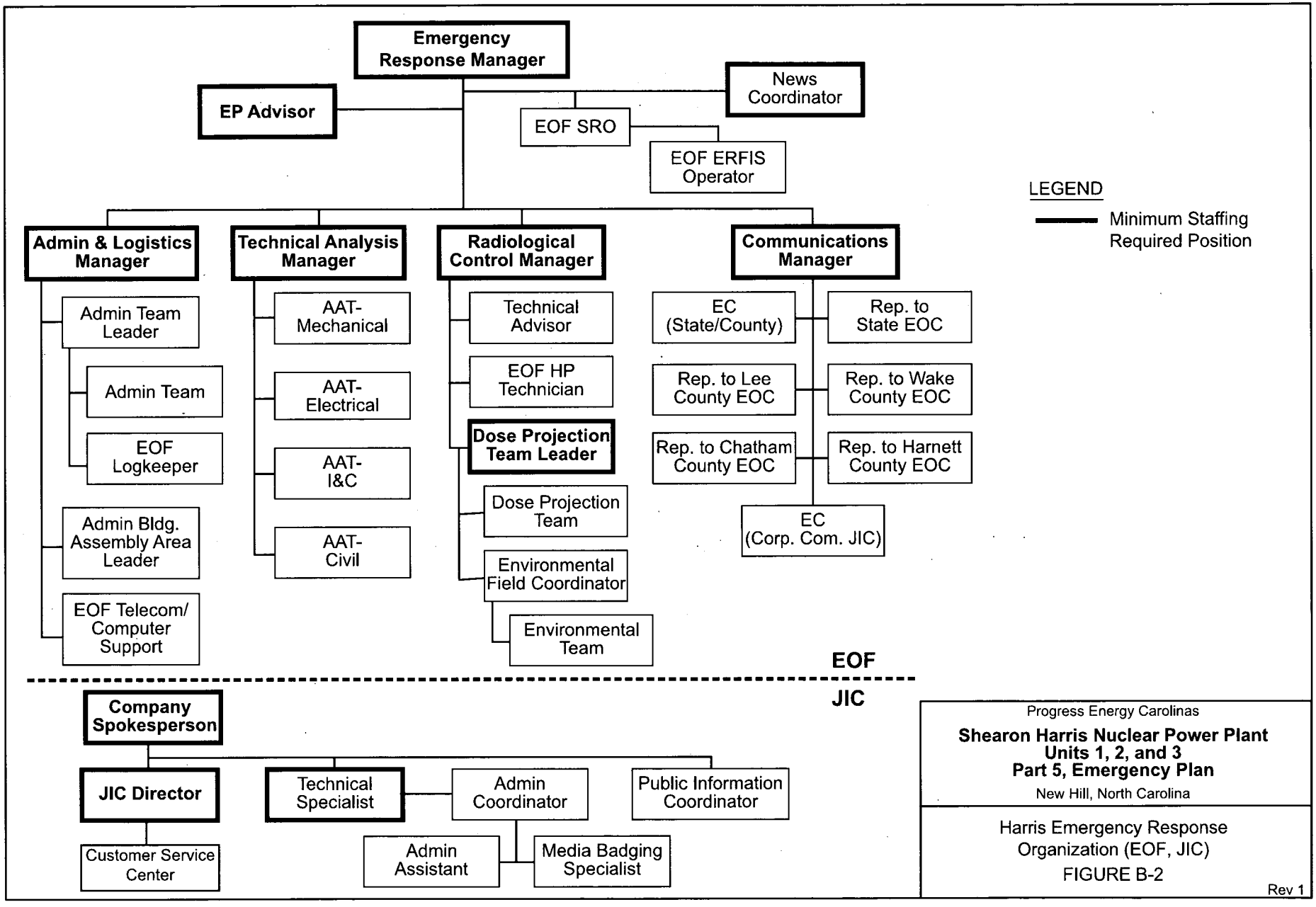
The following terms shall have the following meanings for the purpose of this Agreement.

A. "Equipment" means the equipment (if any) listed on the Schedule provided by WSI hereunder.
B. "Schedule" means the first and signatory page of this Agreement, as well as any addenda thereto, listing the Equipment, Software, and Services provided hereunder and the fees associated therewith.
C. "Services" means the weather forecast and information services listed on the Schedule and all data, text, maps, forecasts, graphics, and other content included therein.
D. "Software" means the WSI software (if any) listed on the Schedule, developed by WSI and provided to Customer hereunder, including associated documentation and any updates, enhancements, new releases and versions thereto that improve functionality.
E. "On-Line Service" means WSI's restricted, password protected internet-accessed energy-related weather information service.
F. "Normal Business Hours" means 8 am-5 pm, EST, Monday-Friday, excluding WSI holidays.
G. "Satellite Service" means WSI's satellite delivered energy-related weather information service.

II. USE OF WSI SERVICES BY CUSTOMER

A. SERVICES: WSI hereby grants to Customer a limited, non-exclusive, non-transferable license to access and use the Services exclusively for Customer's own internal use at the single location listed on the Schedule ("Designated Site"). WSI represents and warrants that it has the authority to enter into this Agreement and has obtained all rights and waivers necessary to grant the rights granted hereunder including all rights in any third party software. WSI represents and warrants that the exercise of the rights granted in this Agreement does not infringe any third party patent, copyright, trademark, trade secret or other intellectual property right.

B. WSI ONLINE: If Customer has elected to license the On-Line Service on the Schedule, WSI hereby grants to Customer a limited, non-exclusive, non-transferable license to access and use the On-Line Service exclusively at the Designated Site. Customer acknowledges and agrees that Customer shall be assigned a unique user code and password by WSI, and that the user code and password shall be treated with the same degree of care that Customer uses with its own user codes and passwords and used exclusively by Customer employees solely at the Designated Site. If Customer suspects that a user code and password has been compromised, it is Customer's responsibility to report this to WSI immediately via phone or email. Deliberate sharing of user codes and passwords or failure to report compromised user code and passwords is grounds for immediate cancellation of the Services. The means and costs for connectivity to the Internet, hardware, and software including web browser required to access the On-Line Service are the sole responsibility of Customer.



Progress Energy Carolinas

Shearon Harris Nuclear Power Plant
Units 1, 2, and 3
Part 5, Emergency Plan

New Hill, North Carolina

Harris Emergency Response Organization (EOF, JIC)

FIGURE B-2

Rev 1

Table 3.8-1
Inspections, Tests, Analyses, and Acceptance Criteria (Sheet 1 of 26)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
1.0 Emergency Classification System			
10 CFR 50.47(b)(4) – A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.	1.1 A standard emergency classification and emergency action level (EAL) scheme exists, and identifies facility system and effluent parameters constituting the bases for the classification scheme. [D.2]	1.1 An inspection of the Control Rooms, Technical Support Center (TSC), and Emergency Operations Facility (EOF) will be performed to verify that they have displays for retrieving facility system and effluent parameters as specified in the Emergency Classification and EAL scheme, and the displays are functional.	1.1 The specified parameters are retrievable in the Control Rooms, TSC and EOF, and the ranges of the displays encompass the values specified in the Emergency Classification and EAL scheme.
2.0 Notification Methods and Procedures			
10 CFR 50.47(b)(5) – Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations; the content of initial and follow-up messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.	2.1 The means exist to notify responsible State and local organizations within 15 minutes after the licensee declares an emergency. [E.2] 2.2 The means exist to notify emergency response personnel. [E.1]	2.1 A test will be performed to demonstrate the capabilities for providing initial notification to the offsite authorities after a simulated emergency classification. 2.2 A test of the primary and back-up ERO notification systems will be performed.	2.1 The State of North Carolina and the counties of Wake, Lee, Harnett, and Chatham receive notification within 15 minutes after the declaration of an emergency from the Control Room and the EOF. 2.2 The primary and back-up ERO notification system tests result in: • Emergency response personnel receiving the notification message; • Mobilization communication is validated by personnel response to the notification system or by telephone; • Response to electronic notification and plant page system is accomplished

Table 3.8-1
Inspections, Tests, Analyses, and Acceptance Criteria (Sheet 2 of 26)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			during normal working hours, and off hours.
	2.3 The means exist to notify and provide instructions to the populace within the plume exposure EPZ. [E.3]	2.3 The full test of notification capabilities will be conducted.	2.3 Notification and clear instructions to the public are successfully accomplished in accordance with the emergency plan requirements.
3.0 Emergency Communications			
10 CFR 50.47(b)(6) – Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.	3.1 The means exist for communications among the Control Rooms, TSC, EOF, principal State and local emergency operations centers (EOCs), and environmental monitoring teams. [F3, F.5]	3.1 A test will be performed of the capabilities. The test for the contact with the principal EOCs and the environmental monitoring teams will be from the Control Room and the EOF. The TSC communication with the Control Room and the EOF will be performed.	3.1 Communications (both primary and secondary methods/systems) are established between the Control Rooms, TSC and the EOF with the North Carolina Division of Emergency Management (NCDEM) warning point and EOC; Wake County Warning Point and EOC; Lee County Warning Point and EOC; Harnett County Warning Point and EOC; and Chatham County Warning Point and EOC. Communications are established between the Control Rooms, TSC and the EOF with the HNP environmental monitoring teams.
	3.2 The means exist for communications from the Control Rooms, TSC, and EOF to the NRC headquarters and regional office EOCs (including establishment of the Emergency Response Data System (ERDS) [or its successor system] between the onsite computer system and	3.2 A test is performed of the capabilities to communicate using ENS from each operating Control Room, TSC and EOF to the NRC headquarters and regional office EOCs. The Health Physics Network (HPN) is tested to ensure communications between the TSC and EOF with the NRC Operations Center. ERDS is established [or its	3.2 Communications are established between the Control Rooms, TSC and EOF to the NRC headquarters and regional office EOCs utilizing the ENS. The TSC and EOF demonstrate communications with the NRC Operations Center using HPN. The access port for ERDS [or its successor system] is provided and successfully completes a transfer of data from the

Table 3.8-1
Inspections, Tests, Analyses, and Acceptance Criteria (Sheet 3 of 26)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
	the NRC Operations Center.) [F.2.6]	successor system] between the onsite computer systems and the NRC Operations Center.	Operating Units to the NRC Operations Center.
4.0 Public Education and Information			
10 CFR 50.47(b)(7) – Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors), the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established.	4.1 The licensee has provided space which may be used for a limited number of the news media. [H.1.5]	4.1 An inspection of the as-built facility/area provided for the news media will be performed in the Joint Information Center (JIC). The space provides adequate equipment to support JIC operation, including communications with the site and with the Emergency Operation Centers in the state and counties as well as a limited number of news media.	4.1 The as-built JIC includes equipment to support JIC operations, including communications with the EOF and State and County EOCs. Designated space is available for news media briefings.

Table 3.8-1
Inspections, Tests, Analyses, and Acceptance Criteria (Sheet 4 of 26)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
5.0 Emergency Facilities and Equipment			
10 CFR 50.47(b)(8) – Adequate emergency facilities and equipment to support the emergency response are provided and maintained.	5.1 The licensee has established a TSC and onsite OSC. [The TSC and OSC may be combined at a single location.] [H.1.2, H.1.3, Annexes 1 and 2]	5.1.1 An inspection of the as-built TSC and OSCs will be performed, including a test of the capabilities. These facilities will meet the criteria of NUREG-0696 with exceptions.	5.1.1 The TSC has at least 1875 ft^2 of floor space (75 ft^2 per person for a minimum of 25 persons). 5.1.2 Communications equipment is installed, and voice transmission and reception are accomplished between the Control Rooms, OSCs, and the EOF. 5.1.3 The TSC ventilation systems include a high efficiency particulate air (HEPA), and charcoal filter and radiation monitors are installed. 5.1.4 The TSC receives, stores, processes, and displays plant and environmental information, and enables the initiation of emergency measures and the conduct of emergency assessment. These capabilities are demonstrated during testing and acceptance activities. 5.1.5 There is an OSC located inside the Unit's Protected Area. It is separate from the Control Room within the Protected Area.

Table 3.8-1
Inspections, Tests, Analyses, and Acceptance Criteria (Sheet 5 of 26)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			5.1.6 Communications equipment is installed, and voice transmission and reception are accomplished between the OSC and OSC Teams, the TSCs, and Control Rooms.
	5.2 The licensee has established an EOF. [H.1.4]	5.2 An inspection of the as-built EOF will be performed, including a test of the capabilities. This facility will meet the criteria of NUREG-0696, with exceptions.	5.2.1 The EOF working space size is at least 4800 ft^2 consistent with NUREG-0696 (at least 75 ft^2/person). 5.2.2 The EOF habitability is consistent with Table 2 of NUREG 0696: • Well engineered for design life of plant. • Protection factor ≥ 5. • Located within 10 to 20 mi of the TSC. 5.2.3 Communications equipment is installed and voice transmission and reception are accomplished between the Control Rooms, TSC, EOF, environmental monitoring teams, NRC, State and county agencies, and JIC. 5.2.4 Radiological data, meteorological data, and plant system data is displayed in the EOF.

Table 3.8-1
Inspections, Tests, Analyses, and Acceptance Criteria (Sheet 6 of 26)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
6.0 Accident Assessment			
10 CFR 50.47(b)(9) – Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.	6.1 The means exist to provide initial and continuing radiological assessment throughout the course of an accident. [I, I.3]	6.1 A test will be performed to demonstrate that the means exist to provide initial and continuing radiological assessment throughout the course of an accident through the plant computer or communications with the Control Room.	6.1 Using selected monitoring parameters, simulated degraded plant conditions are assessed, and protective actions are initiated in accordance with the following criteria: A. Accident Assessment and Classification 1. Demonstrate the ability to identify initiating conditions, determine emergency action level (EAL) parameters, and correctly classify the emergency throughout the drill. B. Radiological Assessment and Control 1. Demonstrate the ability to obtain onsite radiological surveys and samples. 2. Demonstrate the ability to continuously monitor and control radiation exposure to emergency workers. 3. Demonstrate the ability to activate environmental monitoring teams within 75 minutes of event declaration. 4. Demonstrate the ability to satisfactorily collect and disseminate field team data. 5. Demonstrate the ability to develop dose projections.
	6.2 The means exist to determine the source term of releases of radioactive material within plant systems, and the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors. [I.3]	6.2 A test will be performed to demonstrate that the means exist to determine the source term of releases of radioactive material within plant systems, and the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors.	
	6.3 The means exist to continuously assess the impact of the release of radioactive materials to the environment, accounting for the relationship between effluent monitor readings, and onsite and offsite exposures and contamination for various meteorological conditions. [I.4]	6.3 A test will be performed that provides evidence that the impact of a radiological release to the environment is able to be assessed by utilizing the relationship between effluent monitor readings, and onsite and offsite exposures and contamination for various meteorological conditions.	

Table 3.8-1
Inspections, Tests, Analyses, and Acceptance Criteria (Sheet 7 of 26)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			6. Demonstrate the ability to make the decision whether to issue radioprotective drugs (KI) to emergency workers. 7. Demonstrate the ability to develop appropriate protective action recommendations (PARs) and notify appropriate authorities within 15 minutes of development. 6.2 Emergency plan implementing procedures provide sufficient direction to accurately calculate the source terms and the magnitude of the release of postulated accident scenario releases. 6.3 Response personnel can continuously assess the impact of the release of radioactive materials to the environment, accounting for the relationship between effluent monitor readings, and onsite and offsite exposures and contamination for various meteorological conditions under drill conditions.

Table 3.8-1
Inspections, Tests, Analyses, and Acceptance Criteria (Sheet 8 of 26)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
	6.4 The means exist to acquire and evaluate meteorological information. [I.6]	6.4 A test will be performed to acquire and evaluate meteorological data/information.	6.4 The following parameters are displayed in the TSC and control room: • Windspeed (at 12m and 61m) • Wind direction (at 12m and 61m) • Barometric pressure (at 15m) • Delta-temperature (between 12m and 61m) • Ambient temperature (at 12m and 61m) • Dewpoint temperature (at 12m) • Precipitation (at 1.5m) • Solar radiation (at 1.5m) This data is in the form needed to use in the appropriate emergency plan implementing procedures during drills and exercises.
	6.5 The means exist to determine the release rate and projected doses if the instrumentation used for assessment is off-scale or inoperable. [I.4]	6.5 A test will be performed of the capabilities to determine the release rate and projected doses if the instrumentation used for assessment is off-scale or inoperable.	6.5 A drill or exercise is conducted that demonstrates the capability to determine the release rate and projected doses with the instrumentation used for assessment off-scale or inoperable.
	6.6 The means exist for environmental monitoring within the plume exposure EPZ. [I.7]	6.6 A test will be performed of the capabilities for environmental monitoring within the plume exposure EPZ.	6.6 A drill or exercise is conducted that demonstrates the ability of the environmental monitoring teams to be dispatched and locate and monitor a radiological release within the plume exposure EPZ.

Table 3.8-1
Inspections, Tests, Analyses, and Acceptance Criteria (Sheet 9 of 26)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
	6.7 The means exist to make rapid assessments of actual or potential magnitude and locations of radiological hazards through liquid or gaseous release pathways, including activation, notification means, field team composition, transportation, communication, monitoring equipment, and estimated deployment times. [I]	6.7 A test will be performed of the capabilities to make rapid assessments of actual or potential magnitude and locations of radiological hazards through liquid or gaseous release pathways, including activation, notification means, field team composition, transportation, communication, monitoring equipment, and estimated deployment times.	6.7 A drill or exercise is conducted that demonstrates the capability to activate the environmental monitoring teams). The team(s) demonstrates the capability to make rapid assessment of actual or potential magnitude and locations of any radiological hazards through simulated liquid or gaseous release pathways. A qualified environmental monitoring team is capable of being notified, activated, briefed and dispatched from the EOF during a radiological release scenario. The team demonstrates conformance with procedural guidance for team composition, use of monitoring equipment, communication from the field, and locating specific sampling locations.

Table 3.8-1
Inspections, Tests, Analyses, and Acceptance Criteria (Sheet 10 of 26)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
	6.8 The capability exists to detect and measure radioiodine concentrations in air in the plume exposure EPZ, as low as 10^{-7} µCi/cc (microcuries per cubic centimeter) under field conditions. [I.7.1]	6.8 A test will be performed of the capabilities to detect and measure radioiodine concentrations in air in the plume exposure EPZ, as low as 10^{-7} µCi/cc (microcuries per cubic centimeter) under field conditions.	6.8 A drill or exercise is conducted that demonstrates the capability of an environmental monitoring team to be dispatched during a radiological release scenario and use sampling and detection equipment for air concentrations in the plume exposure EPZ, as low as 10^{-7} µCi/cc.
	6.9 The means exist to estimate integrated dose from the projected and actual dose rates, and for comparing these estimates with the EPA protective action guides (PAGs). [I.4]	6.9 A test will be performed of the capabilities to estimate integrated dose from the projected and actual dose rates, and for comparing these estimates with the EPA protective action guides.	6.9 A drill or exercise is conducted that demonstrates the ability to estimate integrated dose from the dose assessment program and the environmental monitoring team reading during a radioactive release scenario. The results are successfully compared with the EPA Protective Action Guides (PAGs).
7.0 Protective Response			
10 CFR 50.47(b)(10) – A range of protective actions has been developed for the plume exposure EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the	7.1 The means exist to warn and advise onsite individuals of an emergency, including those in areas controlled by the operator, including:[J.1.1] 1. employees not having emergency assignments; 2. visitors; 3. contractor and construction personnel; and 4. other persons who may be in the public access areas, on or passing through the	7.1 A test will be performed of the capabilities of the onsite warning system.	7.1 The following objectives to warn and advise onsite individuals are successfully satisfied during a drill or exercise: A. Demonstrate the ability to perform assembly and accountability for all onsite individuals, including those identified below, within 30 minutes of an emergency requiring protected area evacuation and accountability: 1. non-essential employees;

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Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
ingestion exposure EPZ appropriate to the locale have been developed.	site, or within the owner controlled area.		2. visitors; 3. contractor and construction personnel. B. Demonstrate the ability to warn and advise other personnel within the owner controlled area. C. Demonstrate the ability to perform site dismissal.
	7.2 The means exist to radiologically monitor people evacuated from the site. [J.1.2]	7.2 A test will be performed of the capabilities.	7.2 A drill or exercise is conducted that demonstrates the capability to radiologically monitor people evacuated from the site. Equipment is available, and personnel have been assigned and trained to procedures that are approved and in place to accomplish this activity.
	7.3 The means exist to notify and protect all segments of the transient and resident populations. [J.2.1]	7.3 A test will be performed of the capabilities.	7.3 A drill or exercise is conducted to demonstrate the capability of the Public Notification and Alerting System to successfully initiate a broadcast message to notify and protect all segments of the transient and resident populations.
8.0 Exercises and Drills			
10 CFR 50.47(b)(14) – Periodic exercises are (will be) conducted to evaluate major portions of	8.1 Licensee conducts a full participation exercise to evaluate major portions of	8.1 A full participation exercise (test) will be conducted within the specified time periods of Appendix E to 10 CFR	8.1.1 The exercise is completed within the specified time periods of Appendix E to 10 CFR Part 50,

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Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.	emergency response capabilities, which includes participation by each State and local agency within the plume exposure EPZ, and each State within the ingestion control EPZ. [N.1]	Part 50.	onsite exercise objectives listed below have been met, and there are no uncorrected onsite exercise deficiencies. *A. Accident Assessment and Classification* 1. Demonstrate the ability to identify initiating conditions, determine emergency action level (EAL) parameters, and correctly classify the emergency throughout the exercise in accordance with emergency plan implementing procedures. <u>Standard Criteria:</u> a. The appropriate EAL condition associated with a parameter or symptom was recognized. b. The correct emergency classification is declared within 15 minutes of the time that the EAL condition was present. *B. Notifications* 1. Demonstrate the ability to alert, notify and mobilize site emergency response personnel, in accordance with emergency plan implementing procedures. <u>Standard Criteria:</u>

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Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			a. Initiate a plant page announcement using the appropriate message scenario for ERO notification. b. Activate the computer based automated callout system at declaration of an Alert classification or higher. 2. Demonstrate the ability to notify responsible State and local government agencies within 15 minutes and the NRC within 60 minutes after declaring an emergency, in accordance with emergency plan implementing procedures. <u>Standard Criteria:</u> a. Transmit information accurately to state and local agencies within 15 minutes of event classification. b. Transmit follow-up information accurately to state and local agencies within 60 minutes of last transmittal. c. Transmit information accurately within 60 minutes of event classification for an initial notification to the NRC. 3. Demonstrate the ability to warn or

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Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			advise onsite individuals of emergency conditions, in accordance with emergency plan implementing procedures. Standard Criteria: a. Initiate notification of onsite individuals of event declaration (via plant page, telephone, etc.), 4. Demonstrate the capability of the Public Notification and Alerting System to operate properly for public notification when required, in accordance with emergency plan implementing procedures. Standard Criteria: a. Greater than 94% of ANS sirens are capable of performing their function as indicated by the feedback system. The clarifying notes listed in NEI 99-02, Regulatory Assessment Performance Indicator Guideline, will be used for this test. b. A NOAA tone alert radio is activated. *C. Emergency Response* 1. Demonstrate the capability to direct and control emergency

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Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			operations, in accordance with emergency plan implementing procedures. Standard Criteria: a. Facility command and control is demonstrated by the Shift Superintendent - Operations in the Control Room (simulator) upon event declaration, and by the Site Emergency Coordinator (SEC) in the Technical Support Center (TSC), and the Emergency Response Manager in the Emergency Operations Facility (EOF) within 60-75 minutes of ERO notification. 2. Demonstrate the ability to transfer overall command and control from the Shift Superintendent-Operations in the Control Room (simulator) to the Site Emergency Coordinator (SEC) in the TSC and Emergency Response Manager in the EOF, in accordance with emergency plan implementing procedures. Standard Criteria: a. Evaluation of briefings that were conducted prior to turnover includes current plant conditions, radiological release information, response efforts and priorities, and the formal relief of delegable

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Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			and non-delegable responsibilities. 3. Demonstrate the ability to maintain continuous staffing of the emergency response facilities for a protracted period, in accordance with emergency plan implementing procedures. Standard Criteria: a. Complete shift relief schedule adequate to support 24-hour staffing. 4. Demonstrate the ability to perform assembly and accountability for all onsite individuals within 30 minutes of an emergency requiring a Protected Area evacuation and accountability, in accordance with emergency plan implementing procedures. Standard Criteria: a. All Protected Area personnel are assembled in their designated assembly area and accountability is completed within 30 minutes of an emergency requiring Protected Area evacuation and accountability.

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Inspections, Tests, Analyses, and Acceptance Criteria (Sheet 17 of 26)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			D. Emergency Response Facilities 1. Demonstrate activation of the Operations Support Center (OSC), Technical Support Center (TSC), Emergency Operations Facility (EOF), and Joint Information Center (JIC), in accordance with emergency plan implementing procedures. <u>Standard Criteria:</u> a. The TSC, OSC, and EOF are activated within approximately one (1) hour of an Alert or higher emergency declaration with at least minimum staffing. b. JIC minimum staffing positions are available within approximately two (2) hours of an Alert or higher emergency declaration. 2. Demonstrate the adequacy of equipment, security provisions, and habitability precautions for the TSC, OSC, EOF, and Joint Information Center (JIC), as appropriate, in accordance with emergency plan implementing procedures. <u>Standard Criteria:</u> a. The adequacy of the emergency equipment in the emergency response facilities,

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Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			including availability and consistency with emergency plan implementing procedures, supported the accomplishment of all of the evaluated performance objectives. b. The Security Director implements and performs all appropriate steps from the emergency plan implementing procedures for the ingress, egress, and control of onsite and offsite personnel responding to the site during the scenario. c. The Radiological Control Director (TSC) and staff correctly implement and perform all appropriate steps from the emergency plan implementing procedures when a simulated onsite/offsite release has occurred during the scenario. 3. Demonstrate communications from the emergency response facilities and the adequacy of communications for all emergency support resources, in accordance with emergency plan implementing procedures. <u>Standard Criteria:</u> a. Emergency response communications are available and operational.

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Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			b. Communications systems are adequate to support CR, TSC, OSC, EOF, and JIC activation. c. Demonstrate emergency response facility personnel are able to operate all specified communication systems. d. Clear primary and backup communications links are established and maintained for the duration of the exercise. *E. Radiological Assessment and Control* 1. Demonstrate the ability to obtain onsite radiological surveys and samples. <u>Standard Criteria:</u> a. RP personnel demonstrate the ability to obtain appropriate instruments (range and type) and take surveys for scenario conditions that allow EPA PAGs to be exceeded. b. Airborne samples are properly taken, reported and assessed and utilized when the conditions indicate the need for the information. 2. Demonstrate the capability to establish emergency exposure

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Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			guidelines consistent with EPA-400 and the ability to continuously monitor and control radiation exposure to emergency workers. Standard Criteria: a. Demonstrate the ability to determine doses received by emergency personnel and volunteers 24 hours/day and provisions for distribution of both self-reading and permanent record devices. b. Demonstrate that exposures are controlled to 10 CFR Part 20 limits until the SEC authorizes the use of emergency EPA limits. c. Exposure records are available, either from the ALARA computer or a hard copy dose report, and are updated and reviewed throughout the scenario. 3. Demonstrate the methods, equipment, and expertise available to make rapid assessments of the actual or potential magnitude and locations of radiological hazards from both gaseous and liquid pathways. Standard Criteria:

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Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			a. Environmental monitoring team activation must be within 75 minutes of event declaration. b. Team deployment occurs rapidly (within approximately 10 minutes) of receipt of instructions to deploy. 4. Demonstrate the ability to satisfactorily collect and disseminate field team data. <u>Standard Criteria:</u> a. Offsite radiological environmental data collected is provided as dose rate and counts per minute (cpm) from the plume, both open and closed window, and air sample (gross and net cpm) for particulate and iodine, if applicable. b. Offsite radiological environmental data is promptly and accurately communicated from the environmental monitoring team to the Environmental Field Coordinator. 5. Demonstrate the ability to estimate integrated dose from projected and actual dose rates and to compare these estimates with EPA Protective Action Guidelines

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Inspections, Tests, Analyses, and Acceptance Criteria (Sheet 22 of 26)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			(PAGs). Standard Criteria: a. The Dose Projection Team Leader and Dose Projection Team perform timely and accurately dose projections using dose projection software, in accordance with emergency plan implementing procedures, and report them to the Radiological Control Manager. 6. Demonstrate the availability and use of potassium iodide (KI) for on-site emergency response personnel. Standard Criteria: a. KI is considered as a potential dose reducing option for situations where airborne radioactive iodine is present. b. KI was administered for activities where personnel dose to the thyroid was calculated, or estimated, to be $\geq$ 50 Rem CDE. c. Follow-up care for individuals exposed to >25 Rem CDE was identified, as applicable. 7. Demonstrate the ability to recommend protective actions to appropriate offsite authorities, in accordance with emergency plan implementing procedures.

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Inspections, Tests, Analyses, and Acceptance Criteria (Sheet 23 of 26)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			Standard Criteria: a. Total effective dose equivalent (TEDE) and committed dose equivalent (CDE) to the thyroid dose projections from the dose assessment computer code are compared to the PAGs. b. PAR's are accurately developed within 15 minutes of the time information of the condition warranting a PAR was available to the ERO. c. PARs are accurately transmitted within 15 minutes of PAR development. Changes to recommendations are communicated to offsite authorities within 15 minutes of a new PAR. *F. Public Information* 1. Demonstrate the capability to develop and disseminate clear, accurate, and timely information to the news media, in accordance with emergency plan implementing procedures. Standard Criteria: a. Information provided to the media/public is prepared at a level that the public can understand. Visuals and

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Inspections, Tests, Analyses, and Acceptance Criteria (Sheet 24 of 26)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			handouts are provided as needed to clarify the information. b. Information is coordinated with Federal, State and local agencies to maintain factual consistency. c. Media briefings are provided within approximately 60 minutes of significant events (i.e., declaration of a Site Area Emergency or initiation of a radiological release.) 2. Demonstrate the capability to establish and effectively operate rumor control in a coordinated fashion, in accordance with emergency plan implementing procedures. <u>Standard Criteria:</u> a. Calls are answered in a timely manner with the correct information. b. Calls are returned or forwarded, as appropriate, to demonstrate responsiveness. c. Rumors are identified and addressed, and recurring rumors are addressed in subsequent press briefings and news releases.

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Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			G. Evaluation 1. Demonstrate the ability to conduct a post-exercise critique, to determine areas requiring improvement and corrective action, in accordance with emergency plan implementing procedures. <u>Standard Criteria:</u> a. An exercise time line is developed, followed by an evaluation of the objectives against the expectations of the timeline. b. Significant problems in achieving the objectives are discussed to ensure understanding of why objectives were not fully achieved. c. Areas requiring improvement are entered in the Harris Corrective Action Program.

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Inspections, Tests, Analyses, and Acceptance Criteria (Sheet 26 of 26)

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
			8.1.2 Onsite emergency response personnel are mobilized in sufficient numbers to fill emergency response positions and successfully perform assigned responsibilities (see Note 1). 8.1.3 The exercise is completed within the specified time periods of Appendix E to 10 CFR Part 50, offsite exercise objectives were met, and there were no uncorrected offsite exercise deficiencies. (Note 1: The assigned responsibilities for onsite Emergency Response Organization members are identified in Sections B.1 through B.4 of the COL Application Emergency Plan)
9.0 Implementing Procedures			
10 CFR Part 50, App. E.V – No less than 180 days prior to the scheduled issuance of an operating license for a nuclear power reactor or a license to possess nuclear material, the applicant's detailed implementing procedures for its emergency plan shall be submitted to the Commission.	9.1 The licensee has submitted detailed implementing procedures for its emergency plan no less than 180 days prior to fuel load.	9.1 An inspection of the submittal letter will be performed.	9.1 Date of submittal letter from the licensee demonstrates that the detailed implementing procedures for the onsite emergency plan were submitted no less than 180 days prior to fuel load.