



October 31, 2012

Docket No. 50-443
SBK-L-12229

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Seabrook Station

Response to NRC 10 CFR 50.54(f) Request for Information Regarding Near-Term Task
Force Recommendation 9.3, Emergency Preparedness

References:

1. NRC Letter, Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident; dated March 12, 2012, Accession No. ML12073A348.
2. NRC Letter, D.L. Skeen (NRC) to S. Perkins-Grew (NEI), U.S. Nuclear Regulatory Commission Review of NEI 12-01, "Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities, Revision 0, dated May 2012," dated May 15, 2012, Accession No. ML12131A043.
3. NextEra Energy Seabrook Letter SBK-L-12111, "90-Day Response to NRC Letter, 'Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident,' dated March 12, 2012," dated June 8, 2012, Accession No. ML12166A324.

On March 12, 2012, the NRC staff issued Reference 1 requesting information pursuant to Title 10 of the Code of Federal Regulations 50.54(f). Enclosure 5 of Reference 1 contains specific Requested Actions and Requested Information associated with Recommendation 9.3 for Emergency Preparedness (EP) programs. The requested information consists of the following three items:

- (1) an assessment of the current communications systems and equipment used during an emergency event to identify any enhancements that may be needed to ensure communications are maintained during a large scale natural event. The assessment should:

A YLS
NRK

U.S. Nuclear Regulatory Commission
SBK-L-12229

- Identify any planned or potential improvements to existing onsite communications systems and their required normal and/or backup power supplies,
 - Identify any planned or potential improvements to existing offsite communications systems and their required normal and/or backup power supplies,
 - Provide a description of any new communications system(s) or technologies that will be deployed based upon the assumed conditions described above, and
 - Provide a description of how the new and/or improved systems and power supplies will be able to provide for communications during a loss of all ac power;
- (2) a description of any interim actions that have been taken or are planned to be taken to enhance existing communications systems power supplies until the communications assessment and resulting actions are complete; and
- (3) an implementation schedule of the time needed to conduct and implement the results of the assessment.

Reference 2 documents the NRC's review and acceptance of NEI 12-01, Revision 0 as providing an acceptable method for licensees to employ when responding to the 10 CFR 50.54(f) letter regarding Recommendation 9.3.

Table 1.1 of NEI 12-01 provides a summary of licensee actions and due dates pertaining to the subject NRC information request. Consistent with Action # 3 of this table, NextEra Energy Seabrook, LLC (NextEra Energy Seabrook) responded to item 2 of the information request via Reference 3. Consistent with Action # 5 of this table, this letter is responsive to items 1 and 3 of the information request and completes our response to the Communications portion of Recommendation 9.3.

The enclosed report, 'NextEra Energy Seabrook Communications Assessment During an Extended Loss of AC Power Event,' was prepared in accordance with the guidance of NEI 12-01, Revision 0. This report documents the requested communications assessment. The planned communications improvements resulting from the assessment, along with an implementation schedule, are identified below as new commitments.

The communications assessment has identified the following enhancements to maintain communications during an extended beyond design basis loss of AC power. The equipment identified has been acquired. Actions planned to be implemented per the implementation schedule include development of procedures, assignment of responsibilities, training assignees on procedures, and staging equipment ready for use.

U.S. Nuclear Regulatory Commission
 SBK-L-12229

This submittal contains the following new commitments:

Enhancement	Implementation Schedule
<p>Stage satellite telephones in the Control Room, Technical Support Center (TSC) and Emergency Operations Facility (EOF) for communication with Offsite Response Organizations (ORO) and the NRC and for communication between the TSC and the EOF. Stage a satellite telephone docking station, antenna and associated cabling in the TSC. Develop procedures for use of the portable telephones. Develop procedures for installation of the temporary antenna and cabling for the TSC satellite telephone docking station.</p>	<p>3rd quarter of 2013 following transition to a new Seabrook Station EOF and following completion of the 2013 Emergency Response Organization (ERO) re-qualification training (no later than September 30, 2013)</p>
<p>Stage a portable generator on the 75' level of the Turbine Building to power spare battery chargers for the in-plant satellite telephones and for the 200+ existing portable radios. Develop procedures for charging spare satellite telephone and portable radio batteries using a portable generator. Develop procedures for re-fueling the portable generator.</p>	<p>3rd quarter of 2013 following transition to a new Seabrook Station EOF and following completion of the 2013 Emergency Response Organization (ERO) re-qualification training (no later than September 30, 2013)</p>
<p>Stage a portable generator and extension cords in a reasonably protected location nearby the in-plant telephone PBX on the 21' level of the Administration Building to power in-plant telephones for communication among in-plant emergency facilities. Develop procedures for connecting the in-plant PBX telephone system to a portable generator. Develop procedures for re-fueling the portable generator.</p>	<p>3rd quarter of 2013 following transition to a new Seabrook Station EOF and following completion of the 2013 Emergency Response Organization (ERO) re-qualification training (no later than September 30, 2013)</p>
<p>Stage spare radio antennas and cabling at the EOF and at an offsite UHF radio system repeater facility for communication with offsite field monitoring teams and as a backup means of communication with ORO emergency facilities.</p>	<p>3rd quarter of 2013 following transition to a new Seabrook Station EOF and following completion of the 2013 Emergency Response Organization (ERO) re-qualification training (no later than September 30, 2013)</p>

U.S. Nuclear Regulatory Commission
SBK-L-12229

Should you have any questions regarding this letter, please contact Mr. Michael O'Keefe,
Licensing Manager, at (603) 773-7745.

Sincerely,

NextEra Energy Seabrook, LLC



Kevin T. Walsh
Site Vice President

cc: NRC Region I Administrator
J. G. Lamb, NRC Project Manager, Project Directorate I-2
NRC Senior Resident Inspector
Director, Office of Nuclear Reactor Regulation
Ms. Jessica A. Kratchman, NRR/JLD/PMB, NRC
Mr. Eric E. Bowman, NRR/DPR/PGCB



I, Kevin T. Walsh, Site Vice President of NextEra Energy Seabrook, LLC hereby affirm that the information and statements contained within are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

Sworn and Subscribed
Before me this
31 day of October, 2012

A handwritten signature in black ink, appearing to read "Kevin T. Walsh".

Kevin T. Walsh
Site Vice President

A handwritten signature in black ink, appearing to read "M. O'Keefe".

Notary Public



Enclosure to SBK-L-12229

**NextEra Energy Seabrook
Assessment of Emergency Communications Capabilities
During a Beyond-Design-Basis Extended Loss of AC Power Event**



**ASSESSMENT OF EMERGENCY COMMUNICATIONS
CAPABILITIES DURING A BEYOND DESIGN BASIS
EXTENDED LOSS OF AC POWER EVENT**

This document contains the Seabrook Station response to section 9.3 (communications assessment only) of the NRC Request for Information Pursuant to Title 10 of the code of Federal Regulations section 50.54(f) dated March 12, 2012.

Dates of Assessment:

July 15, 2012 through September 28, 2012

Assessment Conducted By:

On File	Senior Nuclear Emergency Preparedness Coordinator	
Name	Title	Signature/Date
On File	Fukushima Response Site Lead	
Name	Title	Signature/Date
On File	Emergency Preparedness Manager	
Name	Title	Signature/Date
On File	IT Network Principal Engineer	
Name	Title	Signature/Date
On File	Nuclear Maintenance Section Supervisor	
Name	Title	Signature/Date

Executive Summary:

This assessment reviews the communications capabilities of Seabrook Station to support emergency response to events involving a beyond design basis extended loss of AC power to the site and large scale natural events (LSNEs) that disable the communications infrastructure in the area surrounding the plant out to 25 miles. Disabled infrastructure includes normal AC electrical service, commercial telephone service, cellular telephone service, and radio communications towers. Backup power sources at offsite locations within the 25 mile area may be considered available and operable.

This assessment was conducted in accordance with industry guidance contained in NEI 12-01, 'Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications', dated May 2012 and endorsed by the NRC in a letter dated May 15, 2012 (ML12131A043).

The conclusion of the assessment is that, as discussed in the Updated Final Safety Analysis Report, Section 9.5.2, Seabrook Station has a diverse set of communications systems designed to ensure reliable communications during normal plant operations and during emergency situations, including fire, accident conditions, and loss of offsite power. These communications systems are non-safety related. Reliability is established by providing primary and backup systems that are sufficiently independent of one another and by backup power capability to protect against loss of offsite power events.

The existing systems have proven to provide reliable communications during several significant station events, including extended loss of offsite power to the station for greater than 36 hours due to ice and wind storms, PBX outages, and loss of communications to local telephone offices due to cut cables.

The beyond design basis events assumed in this assessment introduce failure modes that could render a significant portion of existing communications capabilities inoperable. The assessment concludes that enhancements are necessary to maintain communications capabilities for responding to emergency events. These enhancements include:

- Portable generator power to the in-plant telephone PBX to maintain telephone communications among in-plant emergency facilities.
- Radio system enhancements to maintain offsite radio communications from the EOF with field monitoring teams and ORO facilities.
- Satellite telephones for communication from in-plant facilities and the EOF with OROs and the NRC and for communication between the TSC and the EOF.
- Portable generator power for charging spare batteries for existing portable radios and satellite telephones utilized in the plant.

Topic: 10 CFR 50.54(f) Request For Information – Near Term Task Force (NTTF) Recommendation 9.3 - Communications

NRC Requested Information

NRC Requested Actions

It is requested that addressees assess their current communications systems and equipment used during an emergency event. It is also requested that consideration be given to any enhancements that may be appropriate for the emergency plan with respect to communications requirements of 10 CFR 50.47, Appendix E to 10 CFR Part 50, and the guidance in NUREG-0696. Also addressees are requested to consider the means necessary to power the new and existing communications equipment during a prolonged SBO.

NRC Request Assumptions

The NRC requests that the following assumptions be made in preparing responses to this request for information: the potential onsite and offsite damage is a result of a large scale natural event resulting in a loss of all alternating current (ac) power.

In addition, assume that the large scale natural event causes extensive damage to normal and emergency communications systems both onsite and in the area surrounding the site. It has been recognized that following a large scale natural event that ac power may not be available to cell and other communications infrastructures.

NRC Requested Information

Addressees are requested to provide an assessment of the current communications systems and equipment used during an emergency event to identify any enhancements that may be needed to ensure communications are maintained during a large scale natural event meeting the conditions described above.

4. COMMUNICATIONS DURING AN EXTENDED LOSS OF AC POWER

4.1 REQUIRED EMERGENCY COMMUNICATIONS CAPABILITIES

Consistent with emergency planning standard requirements, communications systems and equipment associated with the following emergency response functions should be available during an extended loss of AC power. Availability should be determined after a review of existing capabilities and consistent with the assumptions listed in NEI 12-01 Rev. 0 Section 2. In particular, it is important that the primary and backup power source (if applicable) for each communications system or piece of equipment be identified.

End-point equipment identified for a communications link listed below should be used solely for the purpose indicated. For example, a satellite telephone assigned to the Control Room should not be credited for performing both Offsite Response Organization (ORO) and NRC notifications.

When performing this assessment, consideration should be given to the desirability of providing some communications capabilities in alternate facilities at offsite locations instead of their normal locations in on-site facilities.

NOTE:

In the tables below, when referring to “Additional Information” in column 8, ensure the following is addressed:

1. Provide a description of any new communications system(s) or technologies that will be deployed based upon the assumed conditions described above, and
2. Provide a description of how the new and/or enhanced systems and power supplies will be able to provide for communications during a loss of all AC power.

4.1.1 Notifications to, and communications with OROs [per 10 CFR 50 Appendix E]

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSNE?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSNE?	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
Single Control Room	1 per Control Room for Shift Communicator	Nuclear Alert System – Dedicated Landline Circuit	NO	Radio based phone Commercial telephone via station PBX	NO NO	YES	Attachment A

4.1.1 Notifications to and communications with OROs [per 10 CFR 50 Appendix E (con't)]

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSNE?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSNE?	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
Technical Support Center (TSC)	1 for Key TSC Communicator	N/A – same as Control Room capability	NO	Same as Control Room capability	NO	YES	Attachment A
Emergency Operations Facility (EOF)	1 for Key EOF Communicator	Nuclear Alert System – Dedicated Landline	NO	Radio based phone Commercial telephone	NO NO	YES	Attachment A

4.1.2 Notifications to, and communications with, the Nuclear Regulatory Commission (NRC) Headquarters Incident Response Center and the appropriate NRC Regional Office Operations Center [per 10 CFR 50 Appendix E]

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSNE?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSNE?	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
Single Control Room	1 per Control Room for ENS Communicator	FTS 2001 ENS line in Control Room.	NO	PBX Phone	NO	YES	Attachment A
Technical Support Center (TSC)	1 for ENS Communicator	FTS 2001 ENS line in TSC.	NO	PBX Phone	NO	YES	Attachment A
EOF - HPN phone location	1 for HPN Communicator	FTS 2001 HPN line in the EOF.	NO	PBX Phone	NO	YES	Attachment A
TSC – HPN phone location	1 for HPN Communicator	FTS 2001 HPN line in the TSC.	NO	PBX Phone	NO	YES	Attachment A

4.1.3 Communications between licensee emergency response facilities [per 10 CFR 50 Appendix E. Additional links that support performance of critical response functions are also specified.] The minimum communications links to support this function are listed below by facility. For example, if the normally used telephone system cannot be restored to service, these links could rely upon some combination of radio, sound-powered and satellite-based communications systems.

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSNE?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSNE?	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
Single Control Room	1 per unit	Plant PBX telephone link to the TSC, OSC and Security	YES	4 way data link UHF trunked radio system Public Address System (Gaitronics) Sound Power Telephones	UHF trunked radio and Gaitronics available for life of batteries	YES	Attachment A Attachment E
Technical Support Center (TSC)	1 each for: • Senior/Lead TSC Manager • Operations Coordination • Maintenance Coordination • Engineering Coordination • Radiological Support Additional response coordination links for multi-unit sites: • N/A	Plant PBX telephone links to the Control Room, OSC, and Security	YES	4 way data link UHF trunked radio system Public Address System (Gaitronics) Sound Power Telephones	UHF trunked radio and Gaitronics available for life of batteries	YES	Attachment A Attachment E

4.1.3 Communications between licensee emergency response facilities [per 10 CFR 50 Appendix. Additional links that support performance of critical response functions are also specified.] The minimum communications links to support this function are listed below by facility. For example, if the normally used telephone system cannot be restored to service, these links could rely upon some combination of radio, sound-powered and satellite-based communications systems. (con't)

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSNE?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSNE?	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
Operational Support Center (OSC)	1 each for: <ul style="list-style-type: none"> • Senior/Lead OSC Manager • Radiological Support Additional response coordination links for multi-unit sites: N/A	Plant telephone link to the TSC and Control Room	YES	4 way data link UHF trunked radio system Public Address System (Gaitronics) Sound Power Telephones	UHF trunked radio and Gaitronics available for life of batteries	YES	Attachment A Attachment B Attachment D Attachment E
Emergency Operations Facility (EOF)	1 each for: <ul style="list-style-type: none"> • Senior/Lead Manager • Key Protective Measures • Operations or Technical Support (as needed to support conduct of dose projections, formulation of PARs and plant status updates to ORO authorities). 	Station telephone system Nuclear Alert System dedicated landline. Station telephone system and MPCS terminal in the EOF.	NO	Commercial telephone Fixed cellular telephones Radio based telephone (backup NAS)	NO	YES	Attachment A

4.1.3 Communications between licensee emergency response facilities [per 10 CFR 50 Appendix E. Additional links that support performance of critical response functions are also specified.] The minimum communications links to support this function are listed below by facility. For example, if the normally used telephone system cannot be restored to service, these links could rely upon some combination of radio, sound-powered and satellite-based communications systems. (con't)

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSNE?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSNE?	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
Joint Information Center (JIC)	1 for Senior Manager	Telephone and face to face with the EOF	YES		Face to face communication with the EOF	NO	Attachment F

4.1.4 Communications with field/offsite monitoring teams [per 10 CFR 50 Appendix E]

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSNE?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSNE?	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
Primary location where field/offsite monitoring team coordination is performed	Field/offsite monitoring team coordination	Offsite UHF radio system via siren control frequencies	YES	Cell phone Nextel phone	NO	YES	Attachment B
Primary location from which field/offsite monitoring teams are deployed	1 for each field/offsite monitoring team	Offsite UHF radio system via siren control frequencies	YES	Cell phone Nextel phone	NO	YES	Attachment B

4.1.5 Communications with other Federal agencies as described in the site emergency plan (e.g., the US Coast Guard) [per 10 CFR 50 Appendix E]

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSNE?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSNE?	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
Primary location where communication with Federal agencies is performed	Coordination with Federal agencies*	Commercial telephone	NO	N/A	NO	NO	N/A

*Not applicable to Seabrook Station. Coordination with other federal agencies such as the US Coast Guard is performed by the State of New Hampshire at the NH State EOC in Concord which is outside the 25 mile area. Station coordination would be achieved via the planned improvements for communication with the State EOC.

4.1.6 Coordination and direction of on-site and in-plant response teams. This includes teams necessary to affect emergency repairs, firefighting, search and rescue, radiological monitoring, and implementation of Transition Phase coping and severe accident management strategies.

To accommodate the timeline associated with NRC Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (as discussed in Section 1), this element should be assessed in 2 phases.

4.1.6.1 Phase 1 Assessment

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSNE?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSNE?	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
On-shift staff	Number necessary for the on-shift staff to perform Initial Phase coping actions (reflecting current staff & strategies)	Plant UHF trunked radio system	Plant UHF trunked radio system for life of the trunked radio system batteries	Point to point portable radio Sound powered telephones	YES	YES	Attachment B
Operational Support Center (OSC) and other site-specific locations as necessary	1 each for: <ul style="list-style-type: none"> • On-site radiological monitoring 2 each for: <ul style="list-style-type: none"> • Firefighting (1 for brigade leader and 1 for the brigade) 2 each per unit for: <ul style="list-style-type: none"> • In-plant rad. monitoring • Search and Rescue • Emergency repairs 	Plant UHF trunked radio system	Plant UHF trunked radio system for life of the trunked radio system batteries	Point to point portable radio Sound powered telephones	YES	YES	Attachment B

4.2 Plant Paging (Announcement) System

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSNE?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSNE?	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
Single Control Room	See assumptions and discussion in NEI 12-01.	Gaitronics	Gaitronics for life of DC battery power to PA system*		NO	NO	Attachment D
TSC	See assumptions and discussion in NEI 12-01	Gaitronics	Gaitronics for life of DC battery power to PA system*		NO	NO	Attachment D

*The postulated large scale natural event would result in declaration of at least a Site Area Emergency per Seabrook Station emergency classification procedures. Because the plant paging system is powered by an uninterruptible power supply, it would be available to provide initial instructions to plant personnel to report to assigned emergency facilities or to leave the site. Per applicable Seabrook Station emergency operating procedures circuits powering the plant paging system would not be shed from battery power. The plant paging system would be available for the life of the DC battery system (~8 hours).

4.3 Communications Equipment at ORO Facilities

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSNE?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSNE?	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
Location where OROs receive notifications of an emergency declaration or a Protective Action Recommendation (as described in the site emergency plan)	At least one. See assumptions and discussion in NEI 12-01.	Nuclear Alert System – dedicated land line.	NO	Radio based telephone Commercial telephone*	YES	NO	N/A

*The ORO facilities that receive notification of a declared emergency or protective action recommendations from Seabrook Station are located beyond the 25 mile area – Concord, NH and Framingham, MA. The dedicated notification equipment that would be used for these notifications is assumed not to be available, but the ORO facilities would continue to have commercial telephone and radio communications capability which would be accessed via enhancements planned for communicating with OROs.

4.4 Notification of the Emergency Response Organization (ERO)

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSNE?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSEE?	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
Location where ERO notifications of an emergency (as described in the site emergency plan)	At least one. See assumptions and discussion in NEI 12-01.	Pager activation via LAN internet link or PBX telephone system	NO	Predetermined response based on wide area loss of power*	YES	NO	Attachment C

*Per station procedure NM11700, Emergency Preparedness Responsibilities of Primary, Subject-to-Call, and Secondary Emergency Response Organization Members, Seabrook Station ERO members required for emergency facility activation are trained to respond to their assigned facilities when made aware of an area wide loss-of-grid event. This training is included in initial ERO training and annual web-based re-qualification training.

4.5 EQUIPMENT LOCATION REQUIREMENTS

To be assumed operable, a piece of on-site communications equipment should be stored in a location, and maintained in a manner, that maximizes survivability following a beyond design basis event.

The final Interim Staff Guidance for NRC Order EA-12-049 was issued on 8/29/12. In light of this Order, all equipment storage locations for the enhancements identified in Section 5.0 of this assessment report will be made to verify:

1. Location or manner of storage reasonably precludes wetting from flooding.
2. Location or manner of storage reasonably precludes damage from a seismic event.
3. Equipment is stored, or otherwise available, in locations that can be readily accessed when needed. To the degree practical, potential constraints to equipment access or movement when selecting a storage location will be considered.

4.6 PERFORMANCE CHARACTERISTICS

4.6.1 Communications among Seabrook Station emergency facilities including Security

The primary communications method among onsite emergency facilities including Security facilities (i.e., CAS and SAS) will be the in-plant telephone system. The in-plant PBX will operate as described in the USFAR and the emergency plan under LSNE conditions with emergency power provided by a portable diesel generator. Sound powered telephones will be available to support emergency communications among in-plant emergency facilities as described in the USFAR and the emergency plan. The sound powered telephone system does not require emergency power to operate. The sound powered telephone system is not specifically designed to withstand seismic events, but portions of the system are located in seismically protected buildings which would not be affected by the assumed LSNE. Primary communications between the TSC and EOF will be maintained by satellite telephone. A docked satellite phone with temporary antenna and cabling run from the Control Building roof to the TSC will be the primary method used by the Site Emergency Director in the TSC to communicate with the Response Manager at the EOF. The Response Manager will communicate via satellite telephone routed through the EOF PBX.

4.6.2 Communications between field/offsite monitoring teams and to location that controls deployment of the teams

The EOF is the location that controls deployment of offsite field monitoring teams. The existing primary communications link with offsite field monitoring teams is an offsite UHF radio system using the UHF siren control frequencies. This offsite UHF radio system is described in the Seabrook Station emergency plan. The UHF siren control system operates through repeaters that receive and transmit the radio signal via communications towers in Kensington, NH and at Pow Wow Hill in Amesbury, MA. Under LSNE conditions, the Kensington tower is assumed to be unavailable. The Pow Wow Hill location and the EOF are powered by an installed standby diesel generator which are assumed to be available. While the communications towers at both the EOF and at Pow Wow Hill would not be available, temporary antennas and cabling will be maintained at the EOF and the Pow Wow Hill facility. Following the LSNE the temporary antennas will be mounted at the facilities to maintain the capability to communicate from the EOF to field teams via the offsite UHF radio system. The EOF and the Pow Wow Hill facilities are reasonably robust to withstand effects of flooding, seismic activity and high winds similar in capability to the Seabrook Station Turbine Building. Because the Pow Wow Hill elevation is 332 feet above MSL, the radio signal from the EOF is capable of reaching the Pow Wow Hill repeater.

4.6.3 Communications from the Shift Communicator and EOF Communicator to ORO contact points

The primary NAS (Comlabs dedicated land line), backup NAS (Nextel radio based link) and commercial telephone from the Control Room and the EOF will be unavailable. These are the methods described in the emergency plan for contact with offsite warning points for emergency declaration and protective action recommendation notification. For LSNE conditions, a portable satellite telephone will be maintained in the Control Room for ORO notification. The Shift Communicator will be required to exit the Control Room to an outside location to use the portable satellite telephone to contact the two offsite warning points. In the EOF, a portable satellite telephone routed through the EOF PBX will be designated for use by the EOF Coordinator to make ORO notifications. In addition, two radio pathways will be available as backup methods to contact OROs. The offsite UHF radio system described above will be capable of communicating to the MA State EOC via radio signal to the MEMA Region 1 EOC in Tewksbury, MA then via land line connection to the MEMA State EOC in Framingham, MA. A second radio pathway to the NH State EOC will be established via the State of NH emergency management command & control radio system. A NH command & control radio is currently located in the EOF and will be installed in the new EOF. This radio signal will be transmitted via temporary antenna mounted on the EOF capable of transmitting a signal to the NH command & control repeater site on Saddleback Mountain.

4.6.4 ENS and HPN communicators and the NRC staff

A portable satellite telephone will be maintained in the Control Room for communication to NRC headquarters for NRC event notification. When the TSC responder responsible for ENS communications arrives, this portable satellite telephone will be transferred to the TSC responder to maintain NRC ENS communications. The user of this satellite phone will be required to exit the facility to an outside location to communicate with NRC headquarters.

A portable satellite telephone routed through the EOF PBX will be designated for use by the HPN Communicator to communicate with NRC Region 1 staff.

4.6.5 Onsite and in-plant teams and the location controlling deployment of the teams

Deployment of onsite monitoring teams and in-plant repair and corrective action teams is controlled from the OSC. Point-to-point portable radios will be the primary method of communications between the OSC and the teams. To a certain extent, the in-plant telephone system may be used to communicate to in-plant locations equipped with telephone extensions. The sound powered telephone system may also be used for locations equipped with sound powered telephone jacks. In-plant and sound powered telephones are backup methods to the use of point-to-point portable radios. There are sufficient portable radios onsite to establish radio relays into remote plant locations if required.

4.7 OTHER ASSESSMENT CONSIDERATIONS

1. Portable backup AC power source(s) for communications systems and components have been assessed, and in accordance with final rulemaking:
 - a. Backup AC power sources credited as operable will meet the assumptions and requirements discussed in section 4.5 above.

- b. Sufficient power source fuel will be available on-site to support the expected run time.
2. Assess battery-operated equipment:
 - a. Enhancements have been identified to verify that there are a sufficient number of on-site and charged batteries to support operation of required equipment. This number was determined with consideration given to the following items:
 - A sufficient number of charged batteries available at the start of an event to support performance of the required emergency response functions listed in Section 4.1, 'Required Emergency Communications Capabilities.'
 - The vendor's stated minimum reliable operability period for a fully-charged battery was used.
 - Availability of on-site battery charging capability.
 - Delivery of replacement batteries if necessary - assumed to occur any time after T + 24 hours.
 3. This assessment has verified that the only manual action that may need to be taken by emergency responders to facilitate the use of any communications link would be if the portable generators were used to provide power. If their use becomes necessary, then additional enhancements (such as staffing, training, etc.) will be identified.
 4. Seabrook Station has a current Letter of Agreement with INPO for providing Plant Emergency Assistance. INPO 03-001, the INPO Emergency Resources Manual, provides a summary description of principal contacts at each nuclear station for use in an emergency and technical expertise and specialized equipment that utilities could provide in response to requests for emergency assistance from an INPO member.

4.8 QUALITY AND MAINTENANCE-RELATED REQUIREMENTS

Equipment acquired and dedicated to responds to LSNE events will be controlled as part of the Emergency Preparedness Department facility and equipment inventory program. The equipment will be identified in the facility inventory manual (EPFI) and will be operationally checked periodically in accordance with EPFI requirements. The equipment will also be identified as equipment important to EP in applicable sections of the EPFI and the station work control manual.

4.9 NATIONAL COMMUNICATIONS SYSTEM (NCS) SERVICES

The Government Emergency Telecommunications Service (GETS) provides National Security/Emergency Preparedness (NS/EP) personnel a high probability of completion for their phone calls when normal calling methods are unsuccessful. It is designed for periods of severe network congestion or disruption, and works through a series of enhancements to the Public Switched Telephone Network (PSTN). Eligible users are key Federal, State, local, and tribal government and critical industry personnel who have NS/EP missions. Seabrook Station currently subscribes to this service.

Seabrook Station also subscribes to Wireless Priority Service (WPS) for its cellular GETS phone service. Initiation of the service is accomplished using assigned cell phones to queue for the next available radio channel by dialing a specific code.

Twenty Nextel cell phones assigned to either the Back-up Nuclear Alert System (NAS) phone circuits or the Field Monitoring Team communications network have been assigned GETS and WPS capability for use should severe network congestion or disruption occur.

An additional eighteen fixed cell phones assigned to either the EOF or station emergency response facilities have been assigned GETS and WPS capability should severe network congestion or disruption occur. An additional 5 GETS numbers are available to be assigned to any Centrex or FTS telephone number as required.

4.10 COMMUNICATIONS PROVIDER EMERGENCY SERVICES

Cellular providers in the area have mobile devices capable of extending cellular service to the area.

4.11 PERSONNEL TRAINING

Appropriate training will be developed for and provided to on-shift and augmented ERO personnel pertaining to location, purpose, and use (per procedures identified below) of the equipment acquired for an LSNE condition. Procedures will be developed for the following purposes:

- Use of satellite telephone equipment
- Connecting emergency power sources to communications equipment
- Maintaining operation of the equipment (e.g., fueling emergency generators)
- Installing temporary antennas and cabling at designated facilities

5.0 Planned Improvements

5.1 Planned improvements to existing on-site communications systems and their required normal and/or backup power supplies:

- Stage two (2) portable satellite telephones in the Control Room.
- Stage three (3) portable satellite telephones in the Technical Support Center.
- Stage one (1) satellite telephone docking station, antenna and associated cabling in the TSC.
- Develop procedures for use of the portable telephones by Control Room personnel for ORO and NRC communications.
- Develop procedures for use of the portable telephones by TSC personnel for ORO, NRC and EOF communications.
- Develop procedures for installation of a temporary antenna and cabling for the TSC satellite telephone docking station.
- Develop procedures for charging spare satellite telephone and portable radio batteries using a portable generator.
- Stage a portable generator on the Turbine Building 75' level for charging spare satellite telephone and portable radio batteries.
- Develop procedures for connecting the in-plant PBX telephone system to a portable generator.
- Stage a portable generator and extension cords in a suitable facility in the vicinity of the in-plant PBX.
- Develop procedures for re-fueling the two portable generators dedicated to on-site communications systems.

5.2 Planned improvements to off-site communications systems and their normal and/or backup power supplies:

- Stage four (4) portable satellite telephones in the Emergency Operations Facility (EOF).
- Establish capability to route satellite telephone communications through the new EOF telephone PBX.
- Stage two (2) spare radio antennas and cabling in the EOF for mounting on the EOF roof.
- Develop procedures for use of the portable satellite telephones in the EOF for ORO, NRC and TSC communications.
- Develop procedures for installation of temporary antennas and cabling for radio communications from the EOF with offsite field monitoring teams and OROs at state EOCs.
- Stage a spare radio antenna and cabling at the offsite UHF radio system repeater site at Pow Wow Hill.
- Develop procedures for installation of a temporary antenna and cabling at the Pow Wow Hill repeater site.
- Existing installed standby generators at the EOF and at the Pow Wow Hill repeater site will provide power for operation of the offsite communications systems.

5.0 Planned Improvements (con't)

5.3 Provide a description of any new communications systems(s) or technologies that will be deployed based on the assumed conditions:

- Portable satellite telephones will be deployed to the Control Room, the TSC and the EOF.

5.4 Provide a description of how the new and/or improved systems and power supplies will be able to provide for communications during a loss of all AC power:

- A portable generator will be staged in a suitable location to charge spare batteries for existing on-site portable radios and for spare batteries for satellite telephones to be deployed to the Control Room and the TSC.
- A portable generator and extension cords will be staged in a suitable location to provide power to the in-plant telephone PBX to maintain telephone communications among on-site emergency facilities.

Current Capabilities

Communications Systems/Equipment	Alternate methods	System/Equipment Description
Plant Private Branch Exchange (PBX) Telephone System.	<ul style="list-style-type: none"> • Radios • ERO Pagers • Company Intranet messages • Company e-mail • Cellular telephones • Gai-tronics 	PBX telephone system with multiple extensions, including locations at the TSC, OSC, EOF, and Security Stations. There are 2 PBXs: one located inside the protected area in Room 101 of the Admin Building and the other in the Operations Support Building. Both PBX's have backup UPS and diesel power sources.
HPN	<ul style="list-style-type: none"> • Local Commercial Telephone System • Cellular telephones 	The HPN is a special commercial telephone circuit (FTS) controlled by the NRC. During an emergency event, it is used at the request of the NRC, to provide onsite and offsite radiological data to the NRC.
Cellular telephones	<ul style="list-style-type: none"> • Radios • Plant PBX Telephone System • Plant Public Address System (PA) • Local commercial telephone system 	Fixed cellular lines are available in onsite emergency facilities in the event of failure of the station PBX or local telephone switching office. There are 2 in the TSC and 1 each in the OSC, Control Room, CAS and SAS. There are 10 fixed cellular lines in the EOF in the event of failure of local telephone switching capability.
Satellite telephones	<ul style="list-style-type: none"> • Radios • Cellular telephones • Local commercial telephone system 	The EOF is equipped with one satellite telephone in the event of loss of local communications infrastructure. An additional satellite phone is available for onsite use.
ENS	<ul style="list-style-type: none"> • Plant PBX Telephone System • Cellular telephones 	The ENS is a special commercial telephone circuit controlled by the NRC. During an emergency event, it is used to provide initial notification of the event to the NRC.
Nuclear Alert System	<ul style="list-style-type: none"> • Plant PBX Telephone System • Cellular telephones 	Nuclear Alert System is comprised of a dedicated land line circuit that is the primary method for notifying offsite warning points. NAS also consists of a backup radio based telephone.
Plant Public Address System (Gai-tronics)	<ul style="list-style-type: none"> • Radios • Plant PBX Telephone System • Cellular telephones • ERO pagers • Email • LAN intranet 	The plant paging system (Gai-tronics) is an internal plant four-channel multi-station public address system. Each public address station has the capability of general announcement of party-line conversation via any channel. Plant fire and emergency alarms use this system.

Communications Systems/Equipment	Alternate methods	System/Equipment Description
Radios	<ul style="list-style-type: none"> • Plant PBX Telephone System • Plant PA • Sound powered telephones 	<p>A UHF trunked radio repeater system is used for onsite two-way communications by station Operations, Maintenance, Fire Fighters, Health Physics, and Security personnel. Remote control consoles are located at the main control room, the Technical Support Center (TSC), the Health Physics/Operational Support Center (HP/OSC), and the HP Alternate Checkpoint.</p>
ERO Pagers	<ul style="list-style-type: none"> • Plant PBX Telephone System • Cellular telephones 	<p>Seabrook Station uses the American Messaging commercial paging service as the primary method for notification of ERO personnel. ERO pagers are activated via internet connection to the paging service. In some cases the pages are forwarded to cell phones of ERO responders who have experienced pager coverage issues.</p>
Sound powered telephones	<ul style="list-style-type: none"> • Plant PBX telephone system • Plant PA • Radios 	<p>The Station has been equipped with a multiple loop sound-powered telephone system. Jack locations have been provided near many major pieces of equipment and on control panels, instrument racks, motor control centers, unit substations and switchgear. Switching panels are provided in the Control Room to enable the loops to be connected together.</p>

ATTACHMENT A

Telephone System

A PBX system provides two-way telephone communications between all areas of the plant. Telephones are installed in the control room and all other plant areas to provide the primary means of communications between plant personnel. The station PBX is located in the Operations Support Building outside the Protected Area. A separate PBX that provides telephone communications within the power block is located inside the Protected Area.

The telephone system can access the public address system for paging. The telephone system can access the trunked UHF radio system via a telephone interconnect. Power for the telephone system is backed up by a UPS and an installed diesel generator.

The Telephone System is used as a means of communications for notification and coordination with onsite and offsite organizations/teams. If power is lost to the station PBX, certain extensions located in the Control Room, TSC, OSC and Guard Island will be automatically connected to the public telephone exchange network directly.

Nuclear Alert System

The Nuclear Alert System (NAS), originating in the Control Room, and comprised of leased telephone lines, is used to notify the New Hampshire State Police (NHSP) Communications Center Dispatcher and Massachusetts Emergency Management Agency (MEMA) 24-hour Dispatcher of an emergency.

The NHSP and MEMA dispatchers will notify the Director, New Hampshire Homeland Security & Emergency Management and Director, MEMA, respectively. The Directors will notify their respective Governors. In addition to the Control Room and offsite warning points, the NAS has been installed in the two states' Emergency Operations Centers (EOCs), the MA Region I EOC in Tewksbury, the NH Rockingham County warning point in Brentwood, and the Emergency Operations Facility (EOF). The system can serve as a back-up communication system for coordination between the locations. Backup to this system is a commercially supplied digital radio service. Provisions are made for backup power to the Nuclear Alert System.

This system is manned on a 24-hour basis on both ends - the Station and the state offsite warning points. The system is tested monthly between the states and the Station.

ATTACHMENT A

(Continued)

FTS 2001 Telephone System

A designated FTS-2001 telephone is installed in the Control Room as the Emergency Notification System (ENS) line. This line is used to provide initial emergency notifications to the Nuclear Regulatory Commission Headquarters Operations Center in Rockville, MD. The line is staffed on an around-the-clock basis by both organizations.

Designated FTS-2001 telephones are installed in the Emergency Operations Facility and the Technical Support Center to support the Health Physics Network (HPN). These telephones will be used to provide radiological and protective action-related information to the NRC.

Additional FTS-2001 and commercial line capabilities have been established in each response center for use by NRC response team members.

Fixed Cellular Network

Fixed cellular telephones have been installed in each of the Seabrook Station emergency response facilities. Fixed cellular telephones have been assigned to several TSC positions. A fixed cellular telephone has been installed in both the Control Room and Operations Support Center. Fixed cellular telephones have also been installed for several positions in the EOF and in the Media Center and are utilized as a backup to the Newington Centrex (primary) system. Internal and external calls require dialing the area code and the 7-digit number.

LSNE Enhancements:

- Portable generator and requisite extension cords to power the in-plant PBX to maintain telephone communications among onsite emergency facilities and Security facilities.
- Two satellite telephones in the Control Room and three satellite telephones in the Technical Support Center for offsite communications to the OROs, NRC (ENS and HPN functions) and the EOF.
- Portable generator for charging satellite telephone spare batteries.
- Four satellite telephones in the EOF for communications with OROs, NRC HPN, Operations support in the TSC and Facility Leads' communication between the EOF and TSC.

ATTACHMENT B

Radio System

(a) VHF System

The VHF radio system is only used for onsite purposes. An offsite UHF radio network has replaced the VHF radio capability previously used as the means of two-way communications with the radiological survey teams. To support rapid deployment of onsite radiological survey teams within or near the site boundary, remote control consoles in the Control Room, Technical Support Center, and Operational Support Center can provide two-way communications with the teams via station UHF frequency. Dedicated portables are stored both in the Operational Support Center and a location outside the Protected Area.

(b) UHF Radio System

A UHF trunked radio repeater system is used for onsite two-way communications by station Operating, Maintenance, Fire Fighters, Health Physics, and Security personnel. Trunking is the process where a trunking controller automatically selects the channel/repeater when a user keys a portable radio or base station. The trunking controller automatically selects the communication path rather than the user having to manually switch channels to find a clear channel. Should a trunked repeater fail, the trunking controller will allow the user to continue communication almost without knowledge of the repeater failure and without termination of the communication. Should the trunking controller fail, the system reverts to operation similar to a conventional repeater system where users are assigned a specific repeater. For a failure of all the fixed radio equipment (trunking controller, repeaters, and RF mixing rack), communications can be maintained by manually switching the control stations and portables to the TALKAROUND (direct) mode. This mode has reduced coverage since the repeaters are not in service. Trunking greatly improves the reliability of the entire system and allows individual repeaters to handle traffic from any user group if other repeaters are in use or inoperable. The programmable features of the system allow the creation of various user talk groups and priority levels. A conventional radio repeater is provided as a telephone system interconnect. This allows the radio system to access the telephone system, or vice versa. This capability only exists for those portable radios that are programmed for this feature. Another conventional repeater is provided as a paging system interconnect to activate onsite pagers.

The radio system equipment is powered from the non-safety power system. Backup power for the trunking controller, repeaters, and RF mixing rack is provided by an emergency diesel generator and by a dedicated battery rated for 2 hours. Other fixed radio equipment such as control stations and control consoles are provided with backup power from an emergency diesel generator backed or UPS backed sources, or a dedicated battery rated for 2 hours. Control consoles located at the Health Physics (HP) Alternate Checkpoint are not provided with backup power. Portable radios can operate independently of all other systems. They are backed up by their own batteries for continued operation in case of loss of all AC power. Remote control consoles are located at the main control room, the Technical Support Center (TSC), the Health Physics/Operational Support Center (HP/OSC), and the HP Alternate Checkpoint.

ATTACHMENT B

(Continued)

(c) Offsite Monitoring Team Radio Network

A UHF network, using radio frequencies supporting the Seabrook Public Alert Notification System (PANS), is the primary means of two-way communications with offsite field monitoring teams. This network consists of the following:

1. A tone remote, control base, and antenna assigned to the Emergency Operations Facility (EOF) which can transmit to radiological survey via five distinct channels.
2. Two mobile radios installed in dedicated radiological survey vehicles and a third portable mobile which can be installed in any vehicle.
3. Six portable radios are available to support State radiological survey teams, as needed

All components of the EOF controls are backed up by emergency power. All system repeaters are backed up by emergency power.

To support rapid deployment of onsite radiological survey teams within or near the site boundary, remote control consoles in the Control Room, Technical Support Center, and Operational Support Center can provide two-way communications with the teams via portables operating on the station UHF frequency. Dedicated portables are stored in both the Operational Support Center and a location outside the Protected Area.

Seabrook Station also maintains a commercially available push-to-talk mobile communications network designed to provide two-way communications with State and utility radiological survey teams.

LSNE Enhancements:

- Portable generator to power chargers for spare batteries for portable radios used in the TALKAROUND (direct) mode for communication with plant field teams and repair teams. (Same generator to be used to power chargers for satellite telephone spare batteries).
- Spare antennas and cabling to maintain use of the offsite UHF radio network for communication with offsite field teams and for backup communications from the EOF with ORO facilities.

ATTACHMENT C

ERO Notification Systems

The normal method of activating the Emergency Response Organization for staff augmentation is by activation of a commercial paging system to alert staff. The paging system activates pagers assigned to each ERO member. The paging signal can be forwarded to ERO members' cell phones to maximize coverage. During normal working hours, ERO pager activation is supplemented by the dissemination of an emergency pop-up message to all station LAN computers and by activation of a site siren. The site siren is activated for a declared Alert or higher emergency classification level, and site personnel are instructed to either report to their assigned emergency response facilities or to leave the site as directed by Security personnel. For off-hours events, ERO pager notification is supplemented by activation of a vendor provided telephone notification system that calls ERO members' home or cell phone number and provides a recorded message. Each of these systems is activated by Security personnel at the direction of the Control Room.

The paging system transmits a pre-scripted text message depending on the emergency classification level. Security personnel activate the text messaging feature using a LAN computer program to select the applicable pager message and to transmit the message via internet connection to the commercial paging service. The system can also transmit a numerical code message via commercial telephone if the primary text messaging feature fails. Local cellular towers are required to transmit the text or numerical messages to pagers or cell phones.

The EMS pop-up computer message is also transmitted by Security personnel using a LAN computer program that allows the user to select the applicable message depending on the emergency classification level and appropriate instructions for site personnel. The site siren is activated by Security personnel using a transmitter device to send the activation radio signal to the siren.

For an off-hours event, Security personnel would activate the telephone notification service via commercial telephone call to the vendor or direct activation via the internet using a LAN computer. The telephone notification system is housed and maintained by a vendor at two geographically separate, redundant sites outside New England.

Seabrook Station has implemented guidance to the site ERO regarding situations where normal notification methods may be unavailable. This was done in response to loss of electrical grid situations such as those described in SOER 99-01. This guidance would also serve to enable augmentation of site staff during other events in which communications capability was degraded or lost. The guidance is provided in initial and annual ERO training. The guidance as stated in station procedure NM11700 says:

“When on-duty/off-duty Primary Responders and subject-to-call pager wearers become aware of a loss or degradation of the electrical grid that has the potential to negatively impact ERO notification systems (i.e., the pager system, cellular telephones or home telephones that require electric power to operate), they are expected to report to their assigned emergency response facilities. Example: If, during a wide-spread loss or degradation of electrical grid events, your cell phone and your home phone and your pager are inoperable, report to your assigned facility”

ATTACHMENT D

Plant Paging System

A public address (PA) system provides communication between the control room and various plant buildings and areas. The system also provides two-way communications between two or more locations. Speakers and telephone type handsets are installed at locations vital to operation of the plant. The system design includes a feature that allows any site telephone access to the PA system for paging by dialing a special access code. However, this feature is not normally used and is disabled by a cutout switch in the control room. The type and power handling capability of each speaker are suitable to its location and the background noise at that location. In most plant areas, the paging messages are intelligible above the noise in the area served by the speaker or speakers. In some high noise areas, the paging messages are not intelligible above the background noise. All handsets are provided with four separate channels, one for paging and three for talking.

The system consists of four channels, and is utilized as a page/talk system under normal operations. Dedicated paging system handsets which are located throughout the plant including the Control Room, Technical Support Center, Operational Support Center, and Security Guard House. During emergency situations, the system can be used for (1) alerting Station personnel; (2) coordinating activities between onsite response teams and the Technical Support Center; (3) calling missing persons that may be in the Station; (4) coordinating activities between Control Room and Technical Support Center; and (5) communicating between Station centers.

A multi-tone generator is connected to the paging channel. One tone is for "immediate evacuation," and another is for fire alarm. The control room has a central panel for supervision of the system and for the push-buttons for the tone generator. The "immediate evacuation" tone satisfies the requirements of Regulatory Guide 8.5. The "immediate evacuation" tone is audible in all areas of the plant, except for a small number of high noise areas. In these areas, beacon lights are utilized to provide the evacuation signal.

The PA system is supplied from a UPS bus. Cables for the PA system are run in Train A control cable raceways that are different from those used for the telephone system. Because the plant paging system is powered by an uninterruptible power supply, it would be available to provide initial instructions to plant personnel to report to assigned emergency facilities or to leave the site. Per applicable Seabrook Station emergency operating procedures (ECA 0.0, Loss of All AC Power), circuits powering the plant paging system would not be shed from battery power. The plant paging system would be available for the life of the DC battery system (~8 hours).

ATTACHMENT E

Sound Powered Telephones

The Station has been equipped with a multiple loop sound-powered telephone system. Jack locations have been provided near many major pieces of equipment and on control panels, instrument racks, motor control centers, unit substations and switchgear. The system has multiple channels which are wired back to a switching panel located in the control room. During refueling, one channel will be dedicated for that operation. One additional channel is dedicated to remote safe shutdown. All sound-powered telephones are Train A associated. Wiring is run in the Train A instrumentation raceway system. Jacks and wiring installed in Train B panels and equipment have been analyzed to show that it is acceptable for the Train A associated sound powered telephone wiring to be in-contact with Train B wiring. When two or more handsets or headsets are plugged into jacks on the same loop or on two loops that are patched together, voice communication is established between the two sets. Handsets and headsets are stored in various location, including the Control Room, Technical Support Center and Operational Support Center. Each remote safe shutdown station has a headset stored in a convenient location. Because no external power is necessary for operation, the system is available during an emergency.

ATTACHMENT F

Facility Assessment Results

The following are the results of the communications assessment for each emergency response facility associated with Seabrook Station:

- **Control Room** - The Control Room contains the necessary communications equipment for notifying on-site personnel and OROs in the event of an accident. This includes the Nuclear Alert Telephone System (NAS), the backup NAS radio based notification system, Emergency Notification System (ENS) hotline to the NRC Operations Center, Commercial Telephones, Station Radio System, Plant Public Address System, and Sound Powered Telephones. During an emergency, the Control Room has communications with other onsite emergency facilities, including Security facilities, via a dedicated 4-way data link. While individual systems could be impacted by a large scale natural event, the diversity of alternatives ensures high reliability of communication links. Potential enhancements to communications systems are listed in Section 5.
- **Technical Support Center** - The TSC has equipment equivalent to the Control Room for on-site and off-site communications with the exception of the NAS. The TSC is also equipped with the Health Physics Network (HPN) dedicated line to the NRC Region 1 Operations Center. The TSC has access to Main Plant Computer System displays which provide critical information for accident identification, pictorial displays of various plant systems, and associated trending information. The TSC maintains communications with the Control Room and the OSC via a 4-way data link. The TSC can be powered by the emergency diesel generators. While individual systems could be impacted by a large scale natural event, the diversity of alternatives ensures high reliability of communication links. Potential enhancements to communications systems are listed in Section 5.
- **Operations Support Center** - The OSC communications requirements for emergency response do not include off-site communications. Any off-site communications would normally go through the TSC. On-site communication with the TSC and multiple communications with field teams in plant are required. Open line telephone communications are maintained between the OSC and the TSC via the 4-way data link. The OSC is equipped with a station radio control station. Portable radio handsets are used for communication between the OSC and field teams. The OSC is located at the RCA control point and has access to emergency power from an emergency diesel generator. While individual systems could be impacted by a large scale natural event the diversity of alternatives ensures high reliability of communication links. Potential enhancements to communications systems are listed in Section 5.
- **Emergency Operations Facility** - The EOF is located off-site at Newington Station, approximately 14 miles from the site. Communications requirements for emergency response include communication with the site, OROs, NRC, and field monitoring teams. The EOF has equipment similar to the Control Room for communication with OROs and NRC including the HPN dedicated line. The EOF also has access to Main Plant Computer System displays which provide critical information for accident identification, pictorial displays of various plant systems, and associated trending information. The power supplies for the existing communications systems include the normal supply from the local electrical grid as well as a back-up diesel generator available for use in the event of a loss of AC power. The EOF and its backup power is assumed to survive. While individual systems could be impacted by a large scale natural event, the diversity of alternatives ensures high reliability of communication links. Potential enhancements to communications systems are listed in Section 5

ATTACHMENT F
(continued)

Facility Assessment Results (continued)

- **Media Center** - The Media Center is located off-site at the EOF. The Media Center is equipped with commercial telephones and internet access, and receives primary and backup power from the same sources as the EOF. The Media Center provides a location for the timely and accurate dissemination of information to the news media and general public regarding a site emergency. The co-location of the Media Center with the EOF provides opportunity for face to face communications to obtain necessary information for dissemination to the public. No enhancements are necessary to maintain Media Center operations during an LSNE.