



Prairie Island Nuclear Generating Plant
1717 Wakonade Drive East
Welch, MN 55089

OCT 3 1 2012

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10 CFR 50.54(f)

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

Prairie Island Nuclear Generating Plant Units 1 and 2
Docket Nos. 50-282 and 50-306
Renewed License Nos. DPR-42 and DPR-60

Emergency Preparedness (EP) Communications Assessment Requested by 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

- 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, ADAMS Accession No. ML12056A046.
 2. NSPM letter, M.A. Schimmel to NRC Document Control Desk, "60-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 May 11, 2012, ADAMS Accession No. ML12142A197.
 3. NSPM letter, J.E. Molden to NRC Document Control Desk, "Emergency Preparedness Information Requested by 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 11, 2012, ADAMS Accession No. ML12163A571.

This letter provides the EP Communications Assessment for the Prairie Island Nuclear Generating Plant (PINGP), as requested by the Nuclear Regulatory

Commission (NRC) in Recommendation 9.3 of Reference 1. Northern States Power Company, a Minnesota Corporation (NSPM), doing business as Xcel Energy, committed to provide this assessment and a schedule for implementation of the results of the communications assessment by October 31, 2012 (Reference 2). This letter and its enclosure provide the requested information and are submitted in accordance with 10 CFR 50.54(f).

The PINGP EP Communications Assessment identified essential communications capabilities to be maintained following a beyond design basis natural disaster impacting the plant and causing an extended loss of offsite power, considering the assumptions of NEI 10-05, "Assessment of On-Shift Emergency Response Organization." As an aspect of its overall and ongoing Fukushima response initiatives, NSPM will determine the means to ensure required communications functions will be maintained. Options to enhance the communications capabilities and to meet the functional communications requirements post-event are being identified.

Currently, the primary option being considered and evaluated is the use of stand-alone and plant infrastructure-integrated satellite phones. It is assumed that satellite phone communication will be an integral aspect of maintaining critical communications functions with the Offsite Response Organizations for the 10-mile Emergency Planning Zone (EPZ) and the NRC under the assumptions of NEI 10-05. Backup power supplies for the satellite phones are described in NSPM letter dated June 11, 2012 (Reference 3). Internal communications within the plant (i.e., Emergency Response Facility to Emergency Response Facility) are planned to be assured through the implementation of actions (both communications and power supply) that will maintain a reliable internal phone network. Key offsite response organizations in the impacted area have been or will be provided satellite phone capability.

The following is a summary of actions under development to enhance EP communications:

	Function Roll-up Table - NEI 12-01 Communications Capabilities	Action
1	4.1.1 Communications from the Control Room, TSC and EOF with Offsite Response Facilities	Communications will be maintained post event through the use of satellite phone technologies until normal systems are restored.
2	4.1.2 NRC Communications with the Control Room	Communications with the NRC via the ENS line will be supported by a satellite communications phone (in addition to the phone used for EPZ OROs) within the Control Room.
3	4.1.2 NRC Communications with the Technical Support Center	Communications with the NRC via the ENS line will be supported by a satellite communications phone (in addition to the phone used for EPZ OROs) within the Technical Support Center.

	Function Roll-up Table - NEI 12-01 Communications Capabilities	Action
4	4.1.2 NRC Communications via the HPN Network	Communications between the site and the NRC will be supported by satellite communications capabilities in both the TSC and near site EOF.
5	4.1.3 Emergency Response Facility Communications (Site ERFs)	Communications between site ERFs will be maintained post event through the use of the Sound Powered Phone System and enhanced reliability of the site PBX system. Satellite phones may also be used.
6	4.1.3 ERF Communications with Offsite Response Organizations	The Key Site functions with offsite officials (Management links, Radiological support, etc) will be maintained through the use of satellite phone capabilities in the site ERFs.
7	4.1.4 Field Team Communications	Environmental Field Monitoring Teams will be provided with satellite phone capabilities to backup the normal radio links. Team direction from the EOF will similarly be supported by satellite capabilities.

EP communications enhancements will be coordinated with the development of the FLEX strategies supporting the Near-Term Task Force Recommendation 4.2 four months prior to the beginning of PINGP 2R29 refueling outage or December 31, 2016, whichever comes first.

Until the enhancements to EP communications at PINGP can be completed, interim corrective actions are being taken as described in Reference 3.

If there are any questions or if additional information is needed, please contact Ms. Jennie Eckholt, Licensing Engineer, at 612-330-5788.

Summary of Commitments

Submittal of the enclosed information completes a commitment in Enclosure 1 of Reference 2. This letter makes the following new commitment:

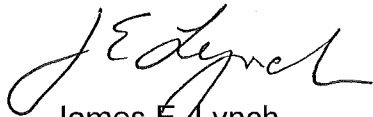
NSPM will implement recommendations from the Emergency Preparedness Communications Assessment in coordination with development of FLEX mitigating strategies four months prior to the beginning of the PINGP 2R29 refueling outage or December 31, 2016, whichever comes first.

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

Executed on **OCT 31 2012**



James E. Lynch

Site Vice President, Prairie Island Nuclear Generating Plant
Northern States Power Company - Minnesota

Enclosure

cc: Administrator, Region III, USNRC
Director of Nuclear Reactor Regulation (NRR), USNRC
NRR Project Manager, PINGP, USNRC
Senior Resident Inspector, PINGP, USNRC

50.54(f) Communications Assessment
Prairie Island Nuclear Generating Plant

Revision 0: September 28, 2012
Revision 1: October 17, 2012

50.54(f) Communications Assessment

Prairie Island Nuclear Generating Plant

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Purpose

In response to the NRC Near-Term task force recommendations a Request for Information pursuant to Title 10 of the Code of Federal Regulations was issued. Included in that request was information pertaining to communications capabilities following a beyond design basis event. Northern States Power Company – Minnesota (NSPM) responded to this request for information in a letter dated May 11, 2012 with a plan to respond to the various components of the request. This assessment provides the response to the following commitments. By October 31, 2012:

- 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 for Recommendation 9.3.
- Provide an implementation schedule of the time needed to implement the results of the communications assessment.

This report documents the communications assessment required to be performed as a result of the March 2012 USNRC Request for Additional Information pertaining to Insights from the Fukushima Dai-ichi Nuclear Event. Attachments 1 and 2 provide the details on the current communications capabilities. Attachment 3 and the body of this assessment discuss enhancements and proposed schedules.

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, ADAMs Accession No. ML12056A046
2. Prairie Island Nuclear Generating Plant (PINGP) letter dated May 11, 2012 (L-PI-12-037), 60-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
3. Nuclear Energy Institute, Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities (NEI 12-01)
4. PINGP letter dated June 11, 2012 (L-PI-12-049), Emergency Preparedness Information Requested by 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

Background

Pursuant to the US NRC Request for Additional Information (Reference 1) NSPM committed in Reference 2 to perform an assessment of communications capabilities using the methodology outlined in NEI 12-01 (Reference 3).

The assessment involved reviewing pertinent documents, such as the Emergency Plan, associated Emergency Plan Implementing Procedures, the Updated Safety Analysis Report, and responses to INPO IER 11-4.

The NRC information request indicates that the communications assessment must assume a total loss of all AC power with severe impact on the infrastructure within 25 miles of the site. The current communications systems were designed and installed to assure reliability of communications, both on-site and off-site, during normal and emergency conditions. The potential on-site issues are related to the required assumption that all AC power is lost. Offsite impact assumptions outlined in NEI 12-01 assumed failure of key infrastructure (e.g., phone lines, radio towers) out to 25 miles. The assumed off-site impacts stem from the assumptions that public infrastructure, including public telephone networks, microwave towers, and cellular phone towers/networks, are unavailable. Observations and recommendations for technology solutions to various challenges were discussed as the project progressed.

Assessment of Existing Communication Equipment

Attachments 1 and 2 provide the details of the existing communications equipment and power supplies

Public Address System

On-site power for the Public Address (PA) System is provided from battery backed essential power busses. The Gaitronics hub is powered from the inverter. Battery backup is available for the repeaters, comparators and satellite receivers of the in-plant radio system; however under the assessment guidelines these batteries are susceptible to flooding and are assumed to be unavailable.

Telephone System

The telephone system supplies normal off-site communications capability. Off-site communications with the telephone system are dependent on the functionality of the equipment powered offsite and within the 25 mile radius of the plant. On-site telecommunications are provided with power from batteries and the plant's non-safeguards diesel generators; however under the assessment guidelines these sources are susceptible to flooding and are assumed to be unavailable. In addition, the equipment is not located in safety related buildings.

Radio System

The site 800 MHz radio equipment is distributed in the site Emergency Response Facilities (ERFs) and powered from the non safety related service building. The in-plant radio system is used extensively for emergency response purposes, including equipment operation, fire brigade, and in-plant monitoring. Under normal conditions, the in-plant radio system uses repeaters to ensure radio

coverage throughout the plant. The PA and the in-plant sound powered phone system provide alternates to the radios.

Sound Powered Phones

Sound powered phones are located throughout the site and provide alternates to the radios.

Offsite Communications

Communications with the off-site response organizations (OROs) depend on the on-site telephone system and the PBX system. Some of these telephones are direct lines and do not pass through the PBX; however, they do pass through the local phone company central office. Per the assessment assumptions all such lines are assumed to be non-functional. Similarly, based on the assumptions of NEI 12-01, cell phones are assumed to be non-functional due to the impact on cell towers in the impacted 25-mile area. Ten-mile EPZ Offsite Response Organizations are required to receive timely (within 15-minute) notifications of Classifications and/or Protective Action Recommendations.

Field Teams dispatched from the site use the 800 MHz radio system to communicate with the EOF with cell phone back-up. For Prairie Island, the primary EOF for this event is expected to be the approved back-up EOF located in downtown Minneapolis, outside the 25-mile impact zone. The radios in the vehicles are powered by the vehicle's electrical system. With the postulated loss of AC power to the on-site repeater, these radios will be limited to line of sight effectiveness. Satellite phones will be provided as a tertiary means of communication. Dose Assessment and communication of key radiological data and any required Protective Action Recommendations will be performed from the fully functional back-up EOF.

Planned actions:

The PINGP Communications Assessment identified essential communications capabilities to be maintained following a beyond design basis natural disaster impacting the plant and causing an extended loss of offsite power, considering the assumptions of NEI 10-05. As an aspect of its overall and ongoing Fukushima response initiatives, NSPM will determine the means to ensure required communications functions will be maintained. Options to enhance the communications capabilities and to meet the functional communications requirements post-event are being identified.

Following a station blackout and loss of all power in the surrounding 25 miles, the PBX system has battery backup capability for one to 8 hours depending on load capacity. Load shedding could extend the battery life up to 8 hours but would not provide needed capacity to support the needs defined in this assessment.

Existing satellite capabilities will be enhanced. An improvement being evaluated to the plant telephone system could allow the site telephone system to call offsite during a station blackout by integrating a satellite phone into the telephone system.

Currently, the primary option being considered and evaluated is the use of stand-alone and plant infrastructure-integrated satellite phones. It is assumed that satellite phone communication will be an integral aspect of maintaining critical communications functions with the Offsite Response Organizations for the 10-mile Emergency Planning Zone (EPZ) and the U.S. Nuclear Regulatory Commission under the assumptions of NEI 10-05. Backup power supplies for the satellite phones are described in NSPM letter dated June 11, 2012 (Reference 4). Internal communications within the plant (i.e., Emergency Response Facility to Emergency Response Facility) are planned to be assured through the implementation of actions (both communications and power supply) that will maintain a reliable internal phone network. Key offsite response organizations in the impacted area have been or will be provided satellite phone capability.

A summary of actions under development include:

	Function Roll-up Table 4.1.1	Action
1	4.1.1 Communications from the Control Room, TSC and EOF with Offsite Response Facilities	Communications will be maintained post event through the use of satellite phone technologies until normal systems are restored.
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3	4.1.2 NRC Communications with the Technical Support Center	Communications with the NRC via the ENS line will be supported by a satellite communications phone (in addition to the phone used for EPZ OROs) within the Technical Support Center.
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6	4.1.3 ERF Communications with Offsite Response Organizations	The Key Site functions with offsite officials (Management links, Radiological support, etc) will be maintained through the use of satellite phone capabilities in the site ERFs.
7	4.1.4 Field Team Communications	Environmental Field Monitoring Teams will be provided with satellite phone capabilities to backup the normal radio links. Team direction from the EOF will similarly be supported by satellite capabilities.

Schedule

These enhancements will be coordinated with the development of the FLEX strategies supporting the Near Term Task Force Recommendation 4.2 four months prior to the beginning of PINGP 2R29 refueling outage or December 31, 2016, whichever comes first.

Attachment 1 Communications Equipment - Location and Current Configuration

System/Equipment	Primary System Component Location	Equipment protected from the below hazards			Comments
		Protected from Seismic as defined in this document	Protected from Flooding as defined in this document	Protected from Wind as defined in this document	
Plant Public Address System (PA)	<ol style="list-style-type: none"> Gaitronics Plant Paging System (PP) located in Relay Room and includes Site Evacuation, Fire and Security Alarms. Plant Public Address System (PA) amplifiers located in various locations. 	<ol style="list-style-type: none"> PP Reasonably protected due to most locations located in seismically rugged structures. PA Reasonably protected due to most locations located in seismically rugged structures. 	<ol style="list-style-type: none"> PP power is subject to flooding loss. PA power is subject to flooding loss. 	<ol style="list-style-type: none"> PP reasonably protected due to most locations located within robust structures. PA reasonably protected due to most locations located within robust structures. 	<ol style="list-style-type: none"> PP relies on power from Service Building UPS batteries. PA relies on power from Service Building UPS batteries and audio interface from Plant PBX system.
Security Stentofon Intercome System – Voice Over Internet Protocol (VOIP) locally based communication system.	<ol style="list-style-type: none"> Dual exchange servers located in SAS and Guardhouse. Access intercom stations are located in various locations throughout the site. 	<ol style="list-style-type: none"> Both exchange servers are reasonably protected being located in seismically rugged structures. Intercom stations may or may not be located in rugged locations. 	<ol style="list-style-type: none"> Guardhouse exchange server is powered from the Security UPS located in the Guardhouse and SAS exchange server is powered from Service Building UPS. Both power sources would be subject to flooding loss. Intercom stations are connected via 	<ol style="list-style-type: none"> Exchange servers are reasonably protected due to both locations located within robust structures. Intercom stations reasonably protected due to most locations located within robust structures. 	

Attachment 1 Communications Equipment - Location and Current Configuration

System/Equipment	Primary System Component Location	Equipment protected from the below hazards			Comments
		Protected from Seismic as defined in this document	Protected from Flooding as defined in this document	Protected from Wind as defined in this document	
			Power over Ethernet (PoE) cable and would also be lost when UPS or server power is lost.		
Emergency Response Paging System	1. Long Range and Short Range Radio ERO Paging System (LRP & SRP) interface with Plant PBX located in OAB 3 rd floor Communications Room.	1. LRP & SRP transmit from local Microwave Tower which is not seismically designed.	1. LRP & SRP transmitters located in Microwave shack is elevated above flood; however normal power and emergency generator are subject to flood loss.	1. LRP & SRP antennas located on Microwave Tower are designed and guy-wired for elevated winds.	1. LRP & SRP data interface requires Plant PBX to be functional. Long range pagers can be activated via a satellite phone as servers are outside of 25 miles.
Plant Private Branch Exchange (PBX) Telephone System	1. Plant PBX (PPBX) located in OAB 3 rd floor Communications Room. 2. Training Center PBX (TCPBX) located in PITC Communications closet.	1. PPBX Reasonably protected due to location in seismically rugged structures. 2. TCPBX Reasonably protected due to location in seismically rugged structure.	1. PPBX power comes from Service Building UPS and is subject to flooding loss. 2. TCPBX power and all related interface equipment are subject to flooding loss.	1. PPBX and TCPBX are reasonably protected from wind damage due to being located within robust structures.	1. PPBX relies on power from Service Building UPS batteries. 2. TCPBX only relies on unprotected AC power from PITC normal or backup AC power sources (no battery backup) and is assumed as completely lost. 3. PPBX and TCPBX both rely on SONET interface to transmit off site.
Local Commercial Telephone System	1. Direct SysOp phone link	1. Direct access phone interfaces	1. Non-Plant PBX interface	1. Reasonably protected due to all	1. Non-PBX lines support multiple voice and data links

Attachment 1 Communications Equipment - Location and Current Configuration

System/Equipment	Primary System Component Location	Equipment protected from the below hazards			Comments
		Protected from Seismic as defined in this document	Protected from Flooding as defined in this document	Protected from Wind as defined in this document	
Interface (Non-PBX interface direct access voice/data lines)	<p>located in Control Room.</p> <p>2. Direct NRC phone links located in EOF and PITC Room 9.</p> <p>3. Direct EOF FAX in/out going machines located in EOF.</p> <p>4. Tech Support direct line located in EOF.</p> <p>5. Assistant EOF Coordinator direct line located in EOF.</p> <p>6. Emergency Director city line.</p> <p>7. Eau Clair Emergency direct lines located in TSC.</p> <p>8. SONET Fiber Network voice and data interfaces are located in OAB 3rd floor communications</p>	<p>are located in Plant Communications Room and reasonably protected from seismic effects.</p> <p>2. SONET Fiber interface components are located in Plant Communications Room and reasonably protected from seismic effects.</p>	<p>components and SONET main power is from Service Building UPS however SONET System, including system interface devices, are backed up with an independent local UPS for ~6-8 hour mission time.</p>	<p>locations located within robust structures.</p>	<p>throughout site.</p>

Attachment 1 Communications Equipment - Location and Current Configuration

System/Equipment	Primary System Component Location	Equipment protected from the below hazards			Comments
		Protected from Seismic as defined in this document	Protected from Flooding as defined in this document	Protected from Wind as defined in this document	
	room.				
NRC ETS Communications	<ol style="list-style-type: none"> 1. Emergency Response Notification Phone (ENS Red Phone). Direct access phones located in: Control Room, TSC, EOF and Resident Inspector. 2. Reactor Safety Counterpart Link . Direct access phones located in TSC and EOF. 3. Protective Measures Counterpart Link Direct access phone located in TSC and EOF. 4. Health Physics Counterpart Link Direct access phones located in EOF and PITC Room 9. 5. Emergency Management Counterpart Link 	<ol style="list-style-type: none"> 1. Direct access for all ETS phone interfaces are located in Plant Communications Room and reasonably protected from seismic effects. 	<ol style="list-style-type: none"> 1. All ETS phone interface components and SONET main power are from Service Building UPS however SONET System, including system interface devices, is backed up with an independent local UPS for ~6-8 hour mission time. 2. SONET link external to site has sections that may be prone to flood interruption; however the link is designed as a bidirectional ring such that the loss of one node will not disable the system. 	<ol style="list-style-type: none"> 1. Reasonably protected due to all locations located within robust structures. 	<ol style="list-style-type: none"> 1. Offsite communication using this system depends on installed telephone lines.

Attachment 1 Communications Equipment - Location and Current Configuration

System/Equipment	Primary System Component Location	Equipment protected from the below hazards			Comments
		Protected from Seismic as defined in this document	Protected from Flooding as defined in this document	Protected from Wind as defined in this document	
	Direct access phones located in TSC and EOF. 6. NRC Operations LAN Data Link Terminals located in TSC and PITC Room 8 7. SONENT voice and data interface located in OAB 3 rd floor communication room.				
Emergency Response Data System (ERDS) VPN System.	1. Access terminals are located in Control Room, TSC, EOF, and Plant Computer Room. 2. Internet access is located in Plant Computer Room, 3. VPN appliance is located off site at Edina Data Center.	1. Terminals and computer systems in various locations are reasonably protected from seismic effects. 2. SONENT Fiber interface components are located in Plant Communications Room and reasonably protected from seismic effects. 3. VPN appliance located at Edina	1. Power for computer system in Service Building comes from Service Building UPS and is subject to flooding loss. 2. SONENT main power is from Service Building UPS however SONENT System is also backed up with local UPS for ~6-8 hour mission time. 3. Offsite VPN location is greater	1. Reasonably protected; all onsite and offsite components are located within robust structures.	

Attachment 1 Communications Equipment - Location and Current Configuration

System/Equipment	Primary System Component Location	Equipment protected from the below hazards			Comments
		Protected from Seismic as defined in this document	Protected from Flooding as defined in this document	Protected from Wind as defined in this document	
		Data Center is greater than 25 miles away and is assumed to be protected from seismic effects.	than 25 miles from PI and assumed to be protected from flooding.		
Plant 800 MHZ Trunked Radio System	<ol style="list-style-type: none"> 1. Radio consoles are located in Control Room, Central Alarm Station (CAS), Secondary Alarm Station (SAS), TSC and EOF. 2. Audio interface components from radio consoles to radio transceivers are located in OAB 3rd floor Communications Room. 3. Main transceivers are located in 755' Level of Auxiliary Building. 4. Radio system antennas are either locally distributed within buildings or mounted 	<ol style="list-style-type: none"> 1. Radio consoles and interface components located in various locations are reasonably protected from seismic effects. 2. Transceivers are located in seismically designed building; however are not seismically installed. 3. Antennas for some channels are located on or within the Aux. Building and are seismically rugged; antennas for other channels are located on the Microwave Tower 	<ol style="list-style-type: none"> 1. Communications Room power comes from Service Building UPS and is subject to flooding loss. 	<ol style="list-style-type: none"> 1. All 800 MHZ components are located within robust structures. 2. 800 MHZ antennas located on Microwave Tower are designed and guy-wired for elevated winds. 	<ol style="list-style-type: none"> 1. All major radio components (transceivers, controllers and antenna couplers) are powered from AC sources without battery backup. Upon loss of main transceivers, all handheld portable radios will still operate on a single channel point-to-point with line-of-sight limited range and subject to available battery life. 2. 24 Spare batteries for handheld radios are available

Attachment 1 Communications Equipment - Location and Current Configuration

System/Equipment	Primary System Component Location	Equipment protected from the below hazards			Comments
		Protected from Seismic as defined in this document	Protected from Flooding as defined in this document	Protected from Wind as defined in this document	
	remotely on Microwave Tower.	and are not seismically rugged.			
Sound Powered Phone System	<ol style="list-style-type: none"> 1. Sound Powered Phone boxes are located at multiple locations throughout the plant. 2. Powered audio amplifier for system monitoring is located in the Relay Room. 	<ol style="list-style-type: none"> 1. Sound powered phone cabling and jack boxes are located in seismically rugged locations. 2. Amplifier and monitors are located in seismically rugged locations. 	<ol style="list-style-type: none"> 1. Multiple jack boxes are located in flood prone locations which would render entire system nonfunctional. 2. Amplifier and monitor receive power from Service Building UPS and are subject to flooding loss. 	<ol style="list-style-type: none"> 1. All sound powered components are located in robust structures. 	
Emergency Cellular Phones (Sprint service provider)	<ol style="list-style-type: none"> 1. Dedicated cell phones located in Control Room, TSC and EOF 	<ol style="list-style-type: none"> 1. Cell phone towers that interface are less than 25 miles from site and are assumed to be lost due to local seismic event. 	<ol style="list-style-type: none"> 1. Cell phone towers that interface are less than 25 miles from site, are located on high ground above the local flood plain, and are assumed to be available. 	<ol style="list-style-type: none"> 1. Cellular towers are typically designed and supported to withstand high winds. 	<ol style="list-style-type: none"> 1. Priority Emergency service is ordered.

Attachment 2 Communication Equipment - Power Sources

System/Equipment	Equipment Power Source(s)			Comments Will interim actions be taken to enhance the power supplies?
	Primary Power Supply (List the power source)	Alternate Power Supply (List the power source)	Backup power availability (e.g., batteries, portable generators, etc.) Yes/No	
Plant Public Address System (PA)	Normal off site power supplied by non-vital 480 volt Bus 310 via 33 Inverter to Panel 116.	Alternate emergency sources via Diesel Generator D3.	Yes – Installed battery backup is from 33 Battery.	Service Building Batteries have an estimated 1-8 hour capacity depending on loading. Selective load shedding can be made to extend battery life beyond this time estimate.
Security Stentofon Intercome System – Voice Over Internet Protocol (VOIP) locally based communication system)	<ol style="list-style-type: none"> 1. Guardhouse Exchange – Normal off site power is supplied by non-vital 480 volt Bus 260 via Security Inverter to Panel 237. 2. SAS Exchange - Normal off site power supplied by non-vital 480 volt Bus 420 via 44 Inverter to Panel 4145 	<ol style="list-style-type: none"> 1. Guardhouse Exchange alternate emergency power source via Guardhouse Diesel Generator. 2. SAS Exchange alternate emergency source is via Diesel Generator D4. 	<ol style="list-style-type: none"> 1. Yes – Installed battery backup for Guardhouse Exchange is from the Security Battery. 2. Yes – Installed battery backup for SAS Exchange is from 44 Battery. 	<ol style="list-style-type: none"> 1. Current Guardhouse battery life is indeterminate due to present state of battery; replacement battery to be installed October 2012 is estimated to have at least a 2 hour minimum capacity which could be extended with selective load shedding. 2. Service Building Batteries have an estimated 1-8 hour capacity depending on loading. Selective load shedding can be made to extend battery life beyond this time estimate.
Emergency Response Paging System	Normal off site power supplied by non-vital 480 volt Bus 310 via 33 Inverter to Panel 116.	Alternate emergency sources via Diesel Generator D3.	Yes – Installed battery backup is from 33 Battery.	Service Building Batteries have an estimated 1-8 hour capacity depending on loading. Selective load shedding can be made to extend battery life beyond this time estimate.

Attachment 2 Communication Equipment - Power Sources

System/Equipment	Equipment Power Source(s)			
	Primary Power Supply (List the power source)	Alternate Power Supply (List the power source)	Backup power availability (e.g., batteries, portable generators, etc.) Yes/No	Comments Will interim actions be taken to enhance the power supplies?
Plant Private Branch Exchange (PBX) Telephone System	<ol style="list-style-type: none"> Plant PBX – Normal off site power supplied by non-vital 480 volt Bus 310 via 33 Inverter and Bus 320 to 34 Inverter via automatic transfer switch to Panel 3146. Training Center PBX – Normal power is provided from off site source to communications closet in PITC. 	<ol style="list-style-type: none"> Alternate emergency sources via Diesel Generator D3 and D4. Normal building power source has alternate feed via automatic transfer switch. 	<ol style="list-style-type: none"> Yes – Installed battery backup is from 33 Battery and 34 Battery. No. 	<ol style="list-style-type: none"> Service Building Batteries have an estimated 1-8 hour capacity depending on loading. Selective load shedding can be made to extend battery life beyond this time estimate. No additional actions available for PITC power.
Local Commercial Telephone System Interface (Non-PBX interface direct access voice/data lines)	Normal off site power supplied by non-vital 480 volt Bus 310 via 33 Inverter and Bus 320 to 34 Inverter via automatic transfer switch to Panel 3146.	Alternate emergency sources via Diesel Generator D3 and D4.	<p>Yes – Installed battery backup is from 33 Battery and 34 Battery.</p> <p>Additional backup UPS for SONET system has additional 6 – 8 hour capacity.</p>	Service Building Batteries have an estimated 1-8 hour capacity depending on loading. Selective load shedding can be made to extend battery life beyond this time estimate.
NRC ETS Communications	Normal off site power supplied by non-vital 480 volt Bus 310 via	Alternate emergency sources via Diesel	Yes – Installed battery backup is from 33	Service Building Batteries have an estimated 1-8 hour capacity depending on loading. Selective load shedding can be made to extend battery life beyond this time

Attachment 2 Communication Equipment - Power Sources

System/Equipment	Equipment Power Source(s)			
	Primary Power Supply (List the power source)	Alternate Power Supply (List the power source)	Backup power availability (e.g., batteries, portable generators, etc.) Yes/No	Comments Will interim actions be taken to enhance the power supplies?
	33 Inverter and Bus 320 to 34 Inverter via automatic transfer switch to Panel 3146.	Generator D3 and D4.	Battery and 34 Battery. Additional backup UPS for SONET system has additional 6 – 8 hour capacity.	estimate.
Emergency Response Data System (ERDS) VPN System.	<ol style="list-style-type: none"> 1. Normal off site power to computer room is supplied by non-vital 480 volt Buses 310, 320, 410 and 420 via 33, 34, 43 and 44 Inverters. 2. Normal power for off site Edina Data Center is unknown. 3. VPN appliance is located off site at Edina Data Center. 	<ol style="list-style-type: none"> 1. Alternate emergency sources via Diesel Generator D3 and D4. 2. Alternate power source for Edina Data Center is unknown. 	<ol style="list-style-type: none"> 1. Yes – Installed battery backup is from 33, 34, 43 and 44 Batteries. 2. Yes – Data Center systems are powered from battery backed UPS. 	<ol style="list-style-type: none"> 1. Service Building Batteries have an estimated 1-8 hour capacity depending on loading. Selective load shedding can be made to extend battery life beyond this time estimate. 2. None known.
Plant 800 MHZ Trunked Radio System	<ol style="list-style-type: none"> 1. Normal off site power for main radio transceivers and controllers is from vital Bus 111 to Panel 217. 2. Portable Radios 	<ol style="list-style-type: none"> 1. Alternate emergency power is from Diesel Generator D1 or via maintenance feed from Panel 217 and D5. 2. None 	None.	None

Attachment 2 Communication Equipment - Power Sources

System/Equipment	Equipment Power Source(s)			
	Primary Power Supply (List the power source)	Alternate Power Supply (List the power source)	Backup power availability (e.g., batteries, portable generators, etc.) Yes/No	Comments Will interim actions be taken to enhance the power supplies?
	are powered from contained batteries.			
Sound Powered Phone System	<ol style="list-style-type: none"> 1. No power required for SP phones. 2. Sound power phone monitor amplifier receives normal off site power supplied by non-vital 480 volt Bus 310 via 33 Inverter to Panel 116. 	<ol style="list-style-type: none"> 1. No power required for SP phones. 2. Alternate emergency sources via Diesel Generator D3. 	<ol style="list-style-type: none"> 1. No power required for SP phones. 2. Yes – Installed battery backup is from 33 Battery. 	<ol style="list-style-type: none"> 1. None required. 2. Service Building Batteries have an estimated 1-8 hour capacity depending on loading. Selective load shedding can be made to extend battery life beyond this time estimate.
Emergency Cellular Phones (Sprint service provider)	Phone battery.	None.	None.	None.

Attachment 3 Communication Equipment - Summary and Improvements

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed NEI 12-01 2.2	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed NEI 12-01 2.2	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
4.1.1 Notifications to, and communications with, OROs [per 10 CFR 50 Appendix E.IV.D and E.9.a]							
Control Room	1 per Control Room for Shift Communicator	Direct Phone/ Fax Line	No	1. 800 MHz radios 2. Plant PBX Telephone System 3. Local Commercial Telephone System	1. No 2. Yes (6-8 hours) 3. No	Integrate Satellite Phones into Protected Plant PBX System	Note 1, pg 24
Technical Support Center (TSC)	1 for Key TSC Communicator	Direct Phone Line/ Fax Line	No	1. 800 MHz radios 2. Plant PBX Telephone System 3. Local Commercial Telephone System	1. No 2. Yes (6-8 hours) 3. No	Integrate Satellite Phones into Protected Plant PBX System	Note 1

Attachment 3 Communication Equipment - Summary and Improvements

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed NEI 12-01 2.2	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed NEI 12-01 2.2	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
Emergency Operations Facility (EOF)	1 for Key EOF Communicator	Direct Phone Line/ Fax Line	No for Primary EOF Yes for Back-up EOF (Outside 25 miles)	1. 800 MHz radios 2. Plant PBX Telephone System 3. Local Commercial Telephone System	1. No 2. Yes (6-8 hours) 3. No	Integrate Satellite Phones into Protected Plant PBX System for Primary EOF Back-up EOF	Note 1

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.IV.D and E.9.d]

Control Room	1 per Control Room for ENS Communicator	ENS/FTS Phone	Yes 6-8 hours	Local Commercial Telephone System	No	Perform ENS on Satellite Phone	Note 1
Technical Support Center (TSC)	1 for ENS Communicator	ENS/FTS Phone	Yes 6-8 hours	Local Commercial Telephone System	No	Perform ENS on Satellite Phone	Note 1

Attachment 3 Communication Equipment - Summary and Improvements

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed NEI 12-01 2.2	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed NEI 12-01 2.2	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
Location(s) where HPN communications are performed	1 for HPN Communicator	HPN phone in TSC HPN phone in EOF HPN phone in Backup EOF	Yes all 6-8 hours	Local Commercial Telephone System	No	Perform HPN on Satellite Phone from TSC	Note 1
<p>4.1.3 Communications between licensee emergency response facilities [per 10 CFR 50 Appendix E.9.c. 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.</p>							
Control Room	1 per unit	Direct Phone Line	No	Portable Cell Plant Page system Plant Radio System Sound Powered CR to TSC	No	Integrate Satellite Phones into Protected Plant PBX System	Note 1 Prairie Island ERFs will be supported by the enhanced PBX system. ERO responders requiring communication with offsite responders will be provided an integrated capability.

Attachment 3 Communication Equipment - Summary and Improvements

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed NEI 12-01 2.2	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed NEI 12-01 2.2	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
Technical Support Center (TSC)	1 each for: <ul style="list-style-type: none"> • Senior/Lead TSC Manager • Operations Coordination • Maintenance Coordination • Engineering Coordination • Radiological Support Additional response coordination links for multi-unit sites: <ul style="list-style-type: none"> • 1 for each position providing Unit Response Coordination. 	Direct Phone Line	No	Portable Cell Plant Page system Plant Radio System Sound Powered CR to TSC	No	Integrate multiple Satellite Phones into Protected Plant PBX System	Note 1 Prairie Island ERFs will be supported by the enhanced PBX system. ERO responders requiring communication with offsite responders will be provided an integrated capability.
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: <ul style="list-style-type: none"> • 1 for each position providing Unit In-Plant Team Coordination. 	Direct Phone Line	No	Plant Page system Plant Radio System	No	Integrate Satellite Phones into Protected Plant PBX System	Note 1 Prairie Island ERFs will be supported by the enhanced PBX system. ERO responders requiring communication with offsite responders will

Attachment 3 Communication Equipment - Summary and Improvements

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed NEI 12-01 2.2	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed NEI 12-01 2.2	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
							be provided an integrated capability.
Emergency Operations Facility (EOF)	1 each for: • Senior/Lead Manager • Key Protective Measures • Operations or Technical Support (as needed to support performance of dose projections, formulation of PARs and plant status updates to ORO authorities).	Direct Phone Line	No	Portable Cell Plant Page system Plant Radio System	No	Integrate multiple Satellite Phones into Protected Plant PBX System	Note 1 Prairie Island ERFs will be supported by the enhanced PBX system. ERO responders requiring communication with offsite responders will be provided an integrated capability.
Back-Up Emergency Operations Facility	There are no enhanced functional requirements for the Back-up Facility (Greater than 25 miles from the site)	Normal Means are Available	Yes	Any normally available means	Yes	Install additional Satellite capability in Back-up EOF	N/A
Joint Information Center (JIC)	1 for Senior Manager	The Joint Information Center is located outside the 25 miles	N/A	Portable Cell or other direct dial lines	N/A	Integrate Satellite Phones into Protected Plant PBX System (this	Note 1

Attachment 3 Communication Equipment - Summary and Improvements

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed NEI 12-01 2.2	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed NEI 12-01 2.2	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
		zone and is protected by back-up power. Direct Phone Line				commitment provides a line from onsite ERFs to support information flow to the JIC	
4.1.4 Communications with field/offsite monitoring teams [per 10 CFR 50 Appendix E.9.c]							
Primary location where field/offsite monitoring team coordination is performed	Field/offsite monitoring team coordination	Plant Radio System	No	Personal Pagers	No	Integrate Satellite Phones into Protected Plant PBX System	Note 1
Primary location from which field/ offsite monitoring teams are deployed	1 for each field/offsite monitoring team	Plant Radio System	No	Personal Pagers	No	Integrate Satellite Phones into Protected Plant PBX System	Note 1
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.9.b]							
Primary location where communication with Federal agencies is performed	Coordination with Federal agencies	There are no commitments in the Prairie Island Emergency Plan for direct contact with other agencies.	N/A	N/A	N/A	Integrate Satellite Phones into Protected Plant PBX System. The proposed system would provide sufficient	Note 1

Attachment 3
Communication Equipment - Summary and Improvements

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed NEI 12-01 2.2	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed NEI 12-01 2.2	Planned or Potential Improvement Identified?	Refer to Following Section for Additional Information
						number of available lines to support any event specific needs.	

Note 1: The satellite phone system will be integrated with the enhanced plant PBX system. Those responders required to communicate with offsite agencies will be provided an integrated satellite system capable of functioning from the facility ERF and that will not require the responder to leave the facility. The system is also provided a transportable handset should the PBX system fail.