Xcel Energy®

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

OCT 20 2014

L-PI-14-104
10 CFR 2.202
10 CFR 50.4

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

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

Prairie Island Nuclear Generating Plant's Second Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049) CORRECTED

References:

1. NRC Order EA-12-049, "Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated March 12, 2012 (ADAMS Accession No. ML12054A736).

2. NSPM Letter to NRC, "Prairie Island Nuclear Generating Plant's Second Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)," dated February 26, 2014 (ADAMS Accession No. ML14057A771).

The purpose of this letter is to provide a corrected second six-month status report pursuant to Section IV, Condition C.2 of Reference 1, which delineates the progress made in implementing the requirements of the Reference 1 Order. Reference 2 was submitted February 26, 2014, to provide the second six-month status report. However, the noted Attachment to the Enclosure was not included in the submittal. This letter

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includes the originally transmitted letter and enclosure (Reference 2) with the intended attachment.

Additionally, as an extent of condition review, it was discovered that the first and second six-month updates (submitted August 26, 2013 and February 26, 2014, respectively) were both missing the milestone "Commence Installation for Online Modifications – Phase 2 and 3" in Table 1 – Overall Integrated Plan Milestone Schedule of the respective Enclosures. This milestone was correctly noted in Table 1 of the recent six-month update submitted on August 25, 2014.

Please contact Stevie DuPont, Principal Licensing Engineer, at 651-267-7573 if additional information or clarification is required.

Summary of Commitments

This letter makes no new commitments and no revisions to existing commitments.

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

Enclosure (Originally submitted letter (ML14057A771) including the Attachment)

cc: Administrator, Region III, USNRC
Director of Nuclear Reactor Regulation (NRR), USNRC
Project Manager, Prairie Island Nuclear Generating Plant, USNRC
Resident Inspector, Prairie Island Nuclear Generating Plant, USNRC

ENCLOSURE

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2

Prairie Island Nuclear Generating Plant's Second Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)
CORRECTED

(18 pages follow)

Xcel Energy®

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

February 26, 2014

L-PI-14-018
10 CFR 2.202
10 CFR 50.4

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

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

Prairie Island Nuclear Generating Plant's Second Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)

References:

1. NRC Order EA-12-049, "Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated March 12, 2012 (ADAMS Accession No. ML12054A736).

2. NRC Interim Staff Guidance JLD-ISG-2012-01, "Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," Revision 0, dated August 29, 2012 (ADAMS Accession No. ML12229A174).

3. NEI 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide," Revision 0, dated August 2012 (ADAMS Accession No. ML12242A378).

4. NSPM Letter to NRC, "Initial Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)," dated October 29, 2012 (ADAMS Accession No. ML12305A287).

5. NSPM Letter to NRC, "Prairie Island Nuclear Generating Plant's Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)," dated February 26, 2013 (ADAMS Accession No. ML13060A379).

6. NSPM Letter to NRC, "Prairie Island's First Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)," dated August 26, 2013 (ADAMS Accession No. ML13239A094).

7. 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. ML12053A340).

On March 12, 2012, the Nuclear Regulatory Commission (NRC) staff issued Order EA-12-049, "Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," (Reference 1) to all NRC power reactor licensees and holders of construction permits in active or deferred status. Reference 1 was immediately effective and directed Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, to develop, implement and maintain guidance and strategies to maintain or restore core cooling, containment and spent fuel pool cooling capabilities following a beyond-design-basis external event for the Prairie Island Nuclear Generating Plant (PINGP). Specific requirements are outlined in Attachment 2 of Reference 1.

Pursuant to Condition C of Section IV, Reference 1 required submission of an initial status report 60 days following issuance of the final interim staff guidance (ISG), an overall integrated plan, and status reports at six-month intervals following the submittal of the overall integrated plan. The ISG (Reference 2) endorses, with exceptions and clarifications, the industry guidance document, Nuclear Energy Institute (NEI) 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide," Revision 0 (Reference 3). Reference 4 provided the PINGP initial 60-day status report regarding mitigation strategies. Reference 5 provided the overall integrated plan for PINGP. The first six-month status report was provided in Reference 6.

The purpose of this letter is to provide the second six-month status report pursuant to Section IV, Condition C.2 of Reference 1, which delineates the progress made in implementing the requirements of the Reference 1 Order. The enclosed report provides an update of milestone accomplishments since the Reference 6 first status report was

submitted, including changes to the compliance method, schedule, or the need and basis for relief, if any.

As described in Reference 5, the PINGP FLEX mitigating strategies are based on the existing design basis flood as defined in PINGP's Updated Safety Analysis Report (USAR). NSPM is performing a Flood Hazard Reevaluation for PINGP pursuant to the 10 CFR 50.54(f) Information Request letter dated March 12, 2012 (Reference 7). NSPM recognizes that the hazard reevaluation could result in calculated flood levels that exceed the current design basis, and that these flood levels could result in a reassessment of the strategies as described in the Reference 5 Overall Integrated Plan. Any changes to the mitigating strategies that result from the flood hazard reevaluation results will be developed in accordance with Reference 7, and communicated via future six-month status reports.

Please contact Jennie Wike, Licensing Engineer, at 612-330-5788, if additional information or clarification is required.

Summary of Commitments

This letter makes no new commitments and no revisions to existing commitments.

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

Executed on February 26, 2014.

Kevin Davison
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
Project Manager, Prairie Island Nuclear Generating Plant, USNRC
Resident Inspector, Prairie Island Nuclear Generating Plant, USNRC

Prairie Island Nuclear Generating Plant Units 1 and 2
Second Six-Month Status Report for Implementation of Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events

1.0 Introduction

The Nuclear Regulatory Commission (NRC) issued Order EA-12-049, "Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," on March 12, 2012 (Reference 1). The Order required licensees to develop, implement and maintain guidance and strategies to maintain or restore core cooling, containment and spent fuel pool cooling capabilities following a beyond-design-basis external event. The Order required licensees to submit an overall integrated plan, including a description of how the requirements in Attachment 2 of the Order would be achieved. Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, submitted the overall integrated plan (Reference 2) for the Prairie Island Nuclear Generating Plant (PINGP) on February 26, 2013. In accordance with Section IV, Condition C.2 of Reference 1, NSPM submitted the first six-month status report on August 26, 2013 (Reference 3).

This Enclosure provides the second six-month status report. This status report includes an update of milestone accomplishments since submittal of the previous six-month status report, including changes to the compliance method, schedule, or the need and basis for relief, if any.

2.0 Milestone Accomplishments

The original milestone schedule with target dates was provided in Attachment 2 of the Reference 2 Enclosure. The following milestone has been completed since the previous status report was submitted and is current as of January 31, 2014.

- Commence Engineering Modification Design – Phase 2 & 3 (design process has started)

3.0 Milestone Schedule Status

The following Table 1 provides an update of the milestone schedule for the overall integrated plan. This table includes a brief milestone status and a revised target date if the target date has changed. The target dates are planning dates subject to change as design and implementation details are developed.

- Unit 1 Implementation Outage:

  The target completion date for the Unit 1 implementation outage was changed from Spring 2016 to Fall 2016, due to changes in the PINGP refueling outage schedule for Unit 1.

- Validation Walk-Throughs:

  The target completion date for the validation walk-throughs was changed from Spring 2016 to Fall 2016, due to changes in the PINGP refueling outage schedule for Unit 1.

- Submit Seventh Six-Month Status Report:

  A target completion date for submitting a seventh six-month status report was added to the milestone schedule, due to changes in the PINGP refueling outage schedule for Unit 1.

- Submit Completion Report:

  The target completion date for submitting the completion report was changed from August 2016 to December 2016, due to changes in the PINGP refueling outage schedule for Unit 1.

- Regional Response Center Operational:

  The Regional Response Center will be operational by January 2015.

- Procure Equipment:

  The target completion date for procuring equipment was changed from April 2014 to December 2014.

Table 1 – Overall Integrated Plan Milestone Schedule

Milestone	Target Completion Date	Activity Status	Revised Target Date
Submit 60 Day Status Report	October 2012	Complete	
Submit Overall Integrated Plan	February 2013	Complete	
Submit First Six-Month Status Report	August 2013	Complete	

Table 1 – Overall Integrated Plan Milestone Schedule			
Milestone	**Target Completion Date**	**Activity Status**	**Revised Target Date**
Commence Engineering Modification Design – Phase 2 & 3	September 2013	Complete	
Submit Second Six-Month Status Report	February 2014	Complete with this submittal	
Regional Response Center Operational	TBD	Started	January 2015
Procure Equipment	April 2014	Started	December 2014
Submit Third Six-Month Status Report	August 2014	Not Started	
Implement Storage	December 2014	Not Started	
Issue Maintenance Procedures	December 2014	Not Started	
Implement Training	February 2015	Not Started	
Submit Fourth Six-Month Status Report	February 2015	Not Started	
Submit Phase 2 Staffing Assessment	Four months prior to 2R29	Not Started	
Implement Communication Recommendations	Four months prior to 2R29	Not Started	
Issue Procedures updated for FLEX strategies	June 2015	Not Started	
Submit Fifth Six-Month Status Report	August 2015	Not Started	
Unit 2 Implementation Outage	Fall 2015	Not Started	
Submit Sixth Six-Month Status Report	February 2016	Not Started	
Unit 1 Implementation Outage	Spring 2016	Not Started	Fall 2016

Table 1 – Overall Integrated Plan Milestone Schedule			
Milestone	**Target Completion Date**	**Activity Status**	**Revised Target Date**
Validation Walk-throughs	Spring 2016	Not Started	Fall 2016
Submit Seventh Six-Month Status Report	August 2016	Not Started	
Submit Completion Report	August 2016	Not Started	December 2016

4.0 Proposed Changes to Compliance Method

There is one change to the compliance method documented in the overall integrated plan, and one update to information provided in the overall integrated plan regarding reactor coolant pump (RCP) seal design. The updated information on RCP seals and the change to the overall integrated plan are provided below.

RCP Low Leakage Seals

The overall integrated plan submitted for PINGP included the following regarding RCP seal leakage assumptions:

> *NSPM is currently evaluating the option to credit the low leakage RCP seals for the ELAP [Extended Loss of AC Power] strategy, which could increase the coping time for Phase 1. Until a decision on the RCP seals is made, the strategy to Maintain RCS Inventory Control will be based on the existing RCP seal design* (Reference 2).

In Reference 3, NSPM reported that the decision was made to install low leakage RCP seals at the PINGP. NSPM installed the first Flowserve N-9000 low leakage RCP seals into Unit 2 during the 2R28 refueling outage. NSPM will install the low leakage seals into Unit 1 during the next scheduled refueling outage 1R29 (Fall 2014). The Flowserve seals will impact the RCS Inventory Control strategy by increasing the coping time for Phase 1 and the timeframe needed to provide RCS makeup water. As NSPM noted in its overall integrated plan, the timeframe for providing RCS makeup water could be extended by several days if the RCP seal packages were replaced with a low leakage design. The specific impact of the Flowserve seals on the coping time is still under evaluation by the vendor and the industry. NSPM will confirm this expectation when the Flowserve information becomes available. Any strategy changes resulting from the Flowserve information will be communicated in future six-month status reports.

Change to RCS Inventory Control Phase 2 and Phase 3 Strategies

The overall integrated plan submitted for PINGP included the following regarding redundant Reactor Coolant System (RCS) makeup capabilities:

- *A portable FLEX makeup water pump will be staged in the Auxiliary Building. A connection to each unit's Chemical Volume Control System (CVCS) will be provided from the portable electric pump. This connection is shown on Figure 4 in Attachment 3 [of Reference 2]. A portable FLEX diesel generator will be provided with cabling to power the electric FLEX makeup water pump. The FLEX makeup water pump will be sized to accommodate the makeup requirements for both units. WCAP-17601-P, Section 3.1.1, indicates that the makeup requirement for a single unit is 20 gpm at 1500 psig.*

- *An alternate RCS connection point will be provided in each unit's CVCS. The alternate connection points, once identified in the design process, will be provided in a six month status report. Similar to the primary means, a portable FLEX makeup water pump will be staged in the Auxiliary Building. A portable FLEX diesel generator will be provided with cabling to power the electric FLEX makeup water pump.* [Reference 2]

The original RCS Inventory Control Phase 2 strategy, as described above, was to install a portable electric pump to provide RCS makeup. The original strategy proposed that the power supply to the portable electric pump would be provided by a portable generator located outside the building with cabling routed from the generator to the pump motor. The strategy in the overall integrated plan included providing a discharge tap into the CVCS and a suction source from the Reactor Water Storage Tank (RWST).

Subsequent to the submittal of Reference 2, NSPM decided to replace the Westinghouse RCP seals with the Flowserve N-9000 low leakage seal design with the Abeyance seal option. As NSPM noted in Reference 2, the timeframe for providing RCS makeup water could be extended by several days if the RCP seal packages were replaced with a low leakage design. Therefore, NSPM anticipates that the time required for providing RCS makeup water will be extended, such that a portable pump for supplying RCS makeup water will not be necessary until Phase 3. For the Phase 3 RCS Inventory Control strategy, the Regional Response Center will provide a portable RCS makeup pump in addition to the 4kV generator discussed in Reference 2.

The specific impact of the Flowserve seals on the RCS Inventory Control Phase 2 strategy is still under evaluation by the vendor and the industry. NSPM will confirm the coping time for the RCS Inventory Control Phase 2 strategy when the Flowserve information is available.

As a backup strategy for Phase 2, NSPM will provide portable generators to repower the charging pumps, if needed in Phase 2. The charging pumps draw suction from the RWST and discharge directly to the RCS. Thus, no new suction or discharge connections will be required to use the charging pumps. There are three charging pumps installed at PINGP per unit. Two charging pumps are powered from one Motor Control Center (MCC) in each Unit (MCC 1K2 in Unit 1 and MCC 2K2 in Unit 2) and the third charging pump is powered from the opposite train MCC (MCC 1K1 in Unit 1 and MCC 2K1 in Unit 2). One charging pump in each Unit is sufficient to provide the required RCS makeup water.

The Phase 2 strategy for providing redundant RCS makeup capabilities, as a backup to the extended coping time granted by the RCP low leakage seals, will be revised in the overall integrated plan as follows:

- Installed charging pumps will be repowered using portable generators. Unit 1 Motor Control Center (MCC) 1K2 and Unit 2 MCC 2K2 will be the preferred MCCs to repower. Repowering these MCCs will provide the option of repowering 11 or 13 Charging Pump [Unit 1] and either 21 or 23 Charging Pump [Unit 2].

- As an alternate connection point, MCC 1K1 [Unit 1] and MCC 2K1 [Unit 2] will be repowered using portable generators. These MCCs will repower 12 and 22 Charging Pumps, respectively.

A mark-up of the overall integrated plan sections describing the Phase 2 and Phase 3 RCS Inventory Control strategies is provided in the attachment to this enclosure. These strategy changes will be incorporated into the final FLEX program document.

Justification for Change to RCS Inventory Control Phase 2 Strategy

Table 3-2 of Nuclear Energy Institute (NEI) 12-06 (Reference 4) provides a summary of the FLEX baseline capabilities for Pressurized Water Reactors (PWR). One of the methods listed in Table 3-2 for RCS Inventory Control is "Low Leak RCP Seals and/or RCS high pressure makeup" (Reference 4). Additionally, the baseline capability for the RCS Inventory Control strategy is described as "Low-leak RCP seals and/or providing on-site high pressure RCS makeup capability" (Reference 4). NSPM's primary method of maintaining RCS inventory during Phase 2 will be through the use of the RCP low leakage seals, which complies with the baseline capability described in Table 3-2 of Reference 4. Repowering the charging pumps will provide an additional method for RCS inventory control during Phase 2, if needed.

The Charging Pumps are contained in the Auxiliary Building, which is a Class 1 structure with a design that is robust with respect to seismic events, floods, and high winds, and associated missiles. Therefore, the Charging Pumps would be available in an ELAP scenario to provide RCS makeup water, per the guidance in Section 3.2.1.3 of Reference 4.

As described in Reference 2, the PINGP FLEX mitigating strategies are based on the existing design basis flood as defined in PINGP's Updated Safety Analysis Report (USAR). NSPM is performing a Flood Hazard Reevaluation for PINGP pursuant to the 10 CFR 50.54(f) Information Request letter dated March 12, 2012 (Reference 5). NSPM recognizes that the hazard reevaluation could result in calculated flood levels that exceed the current design basis, and that these flood levels could result in a reassessment of the strategies as described in the Reference 2 Overall Integrated Plan. Any changes to the mitigating strategies that result from the flood hazard reevaluation results will be developed in accordance with Reference 5, and communicated via future six-month status reports.

5.0 Need and Basis for Relief from the Requirements of the Order

NSPM expects to comply with the Order implementation date and requirements. No relief from the requirements of the Order is required at this time.

6.0 Open Items from Overall Integrated Plan and Interim Staff Evaluation

NSPM did not identify any open items in the PINGP mitigating strategies overall integrated plan. The overall integrated plan did contain future actions to ensure compliance with the Order. The future actions were identified internally and are being tracked through NSPM's corrective action program (CAP).

The Interim Staff Evaluation (ISE) has not been issued as of January 31, 2014. Closure of the ISE confirmatory and open items, when issued, will be tracked to closure in future status reports.

7.0 Potential Interim Staff Evaluation Impacts

There are no potential impacts to the ISE identified at this time.

8.0 References

The following references support the updates to the overall integrated plan described in this enclosure.

1. NRC Order EA-12-049, "Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated March 12, 2012 (ADAMS Accession No. ML12054A736).

2. NSPM Letter to NRC, "Prairie Island Nuclear Generating Plant's Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)," dated February 26, 2013 (ADAMS Accession No. ML13060A379).

3. NSPM Letter to NRC, "Prairie Island's First Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)," dated August 26, 2013 (ADAMS Accession No. ML13239A094).

4. NEI 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide," Revision 0, dated August 2012 (ADAMS Accession No. ML12242A378).

5. 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. ML12053A340).

ATTACHMENT

Revised FLEX Overall Integrated Plan –

Phase 2 and Phase 3

Maintain RCS Inventory Control Strategies

6 pages follow

Maintain RCS Inventory Control

PWR Portable Equipment Phase 2

Provide a general description of the coping strategies using on-site portable equipment including modifications that are proposed to maintain core cooling. Identify methods (Low Leak RCP Seals and/or borated high pressure RCS makeup) and strategy(ies) utilized to achieve this coping time.

During Phase 2 coping, the RCS will be maintained at approximately 350 psig to preclude nitrogen injection from the SI Accumulators into the RCS and to ensure that the reactor is maintained subcritical. During Phase 2, the capability to supply makeup water will be provided.

NSPM is in the process of replacing the Westinghouse RCP seals with the Flowserve N-9000 low leakage seal design with the Abeyance seal option. The timeframe for providing RCS makeup water could be extended by several days with a low leakage RCP seal design. NSPM anticipates that the time required for providing RCS makeup water will be extended, such that a portable pump for supplying RCS makeup water will not be necessary until Phase 3. The specific impact of the Flowserve seals on the RCS Inventory Control Phase 2 strategy is still under evaluation by the vendor and the industry. NSPM will confirm the coping time for the RCS Inventory Control Phase 2 strategy when the Flowserve information is available.

As a backup strategy to the low leakage RCP seals, portable generators will be provided to repower the charging pumps during Phase 2. NSPM will provide portable generators to repower the charging pumps, if needed in Phase 2.

The Phase 2 strategy for providing redundant RCS makeup capabilities, as a backup to the extended coping time granted by the RCP low leakage seals will be provided as follows.

- **Installed charging pumps will be repowered using portable generators. Unit 1 Motor Control Center (MCC) 1K2 and Unit 2 MCC 2K2 will be the preferred MCCs to repower. Repowering these MCCs will provide the option of repowering 11 or 13 Charging Pump [Unit 1] and either 21 or 23 Charging Pump [Unit 2].**

- **As an alternate connection point, MCC 1K1 [Unit 1] and MCC 2K1 [Unit 2] will be repowered using a portable generator. These MCCs repower 12 and 22 Charging Pumps, respectively.**

Primary and Alternate makeup capabilities will be provided using this combination of FLEX equipment.

The Charging Pumps are contained in the Auxiliary Building, which is a Class 1 structure with a design that is robust with respect to seismic events, floods, and high winds, and associated missiles. Therefore, the Charging Pumps would be available in an ELAP scenario to provide RCS makeup water.

The water supply to the **charging** pumps will be of sufficient **quality** to meet chemistry requirements (e.g., boric acid concentration). Provided that the RCS is maintained at, or above, approximately 350 psig, the

Maintain RCS Inventory Control
PWR Portable Equipment Phase 2
water volume injected from the SI Accumulators provides sufficient boron to maintain the reactor subcritical. The boron concentration in the water source to the makeup pumps will be greater than the boron concentration in the RCS to avoid the potential for dilution. At PINGP, there are two Class I designed sources of borated water that can be used for Phase 2. These sources are the following: • Reactor Water Storage Tank (RWST) – The boron concentration in the RWST is maintained between 2600 and 3500 ppm per Technical Specification 3.5.4. There are two storage tanks with 265,000 gallons per tank. • Boric Acid Storage Tank – The boric acid storage tanks are typically maintained at 12 weight percent. This source may not be available due to loss of tank heating and piping heat trace. There are three boric acid storage tanks with a 5,000 gallon capacity per tank. As described above, provided that the RCS is maintained at, or above, 350°F, the volume injected from the SI Accumulators provides sufficient boron to maintain the reactor subcritical. The SI Accumulators inject into the RCS cold legs. Natural circulation flow in the RCS mixes the boron injected from the SI Accumulators with the balance of the RCS. The available free volume in the RCS is more than sufficient to accommodate the volume injected from both SI Accumulators during RCS depressurization to a SG pressure of 350 psig. Thus, a RCS letdown path is not required during Phase 2.

Details:	
Provide a brief description of Procedures / Strategies / Guidelines	*Confirm that procedure/guidance exists or will be developed to support implementation.* ECA 0.0 will be updated, as necessary, to reflect the results from the ELAP related analyses. NSPM FSGs will be developed to support the ELAP event. These procedures will be developed in conjunction with the PWROG.
Identify modifications	*List modifications.* **Electrical connections to support repowering the charging pumps will be installed at MCCs 1K1, 1K2, 2K1, and 2K2.**
Key Reactor Parameters	*List instrumentation credited or recovered for this coping evaluation.* Same instrumentation as Phase 1 except for instrumentation associated with the portable FLEX equipment.

Maintain RCS Inventory Control	
PWR Portable Equipment Phase 2	
Storage / Protection of Equipment: **Describe storage / protection plan or schedule to determine storage requirements**	
Seismic	*List how equipment is protected or schedule to protect.* See discussion under "Determine Applicable Extreme External Hazard" section for protection of equipment from seismic events.
Flooding Note: if stored below current flood level, then ensure procedures exist to move equipment prior to exceeding flood level.	*List how equipment is protected or schedule to protect.* See discussion under "Determine Applicable Extreme External Hazard" section for protection of equipment from external flooding.
Severe Storms with High Winds	*List how equipment is protected or schedule to protect.* See discussion under "Determine Applicable Extreme External Hazard" section for protection of equipment from high winds.
Snow, Ice, and Extreme Cold	*List how equipment is protected or schedule to protect.* See discussion under "Determine Applicable Extreme External Hazard" section for protection of equipment from snow, ice and extreme cold.
High Temperatures	*List how equipment is protected or schedule to protect.* See discussion under "Determine Applicable Extreme External Hazard" section for protection of equipment from high temperatures.

Deployment Conceptual Modification **(Attachment 3 contains Conceptual Sketches)**		
Strategy	**Modifications**	**Protection of connections**
Identify Strategy including how the equipment will be deployed to the point of use.	*Identify modifications*	*Identify how the connection is protected*
Storage locations and structure(s) have not yet been decided. Figure 2 in Attachment 3 identifies clear deployment paths onsite for the transportation of FLEX equipment. Portable FLEX	No modifications have been identified to address Phase 2 deployment issues. Any additional modifications identified will be communicated in the six month status reports.	The connections will be made inside the Auxiliary Building which is a Class I structure. Thus, connections inside the Auxiliary Building will be protected. Multiple access pathways exist for hose and cable routing to

Maintain RCS Inventory Control		
PWR Portable Equipment Phase 2		
diesel generator(s) will be deployed from the storage location. For this function, a clear deployment path has been shown from the identified roads to the Turbine Building in Figure 2. Debris removal equipment will be available to clear debris from the deployment path.		connection points. Debris removal equipment will be available to clear debris, if necessary.
Notes:		

Maintain RCS Inventory Control	
PWR Portable Equipment Phase 3	
Provide a general description of the coping strategies using Phase 3 equipment including modifications that are proposed to maintain core cooling. Identify methods (Low Leak RCP Seals and/or borated high pressure RCS makeup)and strategy(ies) utilized to achieve this coping time.. Phase 3 FLEX equipment for PINGP includes installation of two 4.16 kV FLEX diesel generators provided from the Regional Response Center (RRC). Alternate connection points for each unit will be provided to the opposite train inside the 4.16 kV Bus Rooms in the Turbine Building (Unit 1) and the D5/D6 Building (Unit 2). The RRC 4.16 kV generators will be used to repower the CVCS pumps to provide normal makeup to the RCS. Each of the 4.16 kV Regional Response Center FLEX diesel generators will be capable of carrying approximately 2000 kW load which will be sufficient to carry all of the loads on a 4.16 kV safeguard bus necessary to support the Phase 3 FLEX strategies for one unit. These loads include a CVCS pump and its support equipment such as MOVs, room coolers, etc. This load will be confirmed once the design process is complete. If necessary, any changes will be reported in the six month status report. Loads previously shed will be reestablished to provide breaker control functions. **In addition, as part of the strategies for Phase 3, the RRC will provide a portable RCS makeup pump.** In addition to the 4160 V diesel generators, the Regional Response Center may provide backups for active Phase 2 FLEX equipment that will continue to be used in Phase 3, and consumables such as fuel and compressed gas supplies to support continued operation of equipment in Phase 3. Phase 3 equipment for PINGP will include the capability to mix higher concentration boric acid supplies to use as part of the RCS makeup capability. This capability includes a tank, mixer, and bags of boric acid. Power will be provided for the tank and piping to meet boric acid solubility requirements.	
Details:	
Provide a brief description of Procedures / Strategies / Guidelines	*Confirm that procedure/guidance exists or will be developed to support implementation.* ECA 0.0 will be updated, as necessary, to reflect the results from the ELAP related analyses. NSPM FSGs will be developed to support the ELAP event. These procedures will be developed in conjunction with the PWROG.
Identify modifications	*List modifications.* Electrical connections will be installed to safeguards 4.16 kV buses.
Key Reactor Parameters	*List instrumentation credited or recovered for this coping evaluation.*

Maintain RCS Inventory Control	
PWR Portable Equipment Phase 3	
	Same instrumentation as Phase 1 except for instrumentation associated with the portable equipment.

Deployment Conceptual Modification **(Attachment 3 contains Conceptual Sketches)**		
Strategy	**Modifications**	**Protection of connections**
Identify Strategy including how the equipment will be deployed to the point of use.	*Identify modifications.*	*Identify how the connection is protected.*
Phase 3 equipment will be provided by the Regional Response Center (RRC) which is tentatively planned to be located in Memphis, TN, with a redundant center located in Phoenix, AZ. Deployment routes from the staging area to the site will be determined based on an assessment of the equipment to be deployed and damage in the affects areas. Equipment transported to the site will be either immediately staged at the point of use location (pumps and generators) or temporarily stored at a lay down area. Deployment paths identified in Figure 2 in Attachment 3 will be used to move equipment as necessary on-site.	No modifications identified for Phase 3 deployment issues. Any additional modifications identified will be communicated in the six month status reports.	FLEX diesel generator connection points will be located inside the 4.16 kV Bus Rooms in the Turbine Building (Unit 1) and D5/D6 Building (Unit 2). Both of these areas are Class I areas and provide adequate protection for the connection. Multiple access pathways exist for hose and cable routing to connection points. Debris removal equipment will be available to clear debris, as necessary.
Notes: None.		