December 30, 2013

Mr. Scott Head, Manager
Regulatory Affairs
Nuclear Innovation North America, LLC
122 West Way, Suite 405
Lake Jackson, TX 77566

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 443 RELATED TO SRP SECTION 1.5 FOR NUCLEAR INNOVATION NORTH AMERICA, LLC (NINA) COMBINED LICENSE APPLICATION

Dear Mr. Head

By letter dated September 20, 2007, South Texas Project (STP) submitted for approval a combined license application pursuant to 10 CFR Part 52. The U. S. Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed application.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter.

To support the review schedule, you are requested to respond within **30** days of the date of this letter. If changes are needed to the safety analysis report, the staff requests that the RAI response include the proposed wording changes.

If you have any questions or comments concerning this matter, I can be reached at 301-415-8484 or by e-mail at Tom.Tai@nrc.gov.

Sincerely,

/RA/

Tom M. Tai, Senior Project Manager
LB3 Branch
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-012
52-013

eRAI Tracking No. 7375

Enclosure:
Request for Additional Information

cc: William Mookhoek
Richard Scheide

If you have any questions or comments concerning this matter, I can be reached at 301-415-8484 or by e-mail at Tom.Tai@nrc.gov.

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Request for Additional Information

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DATE	12/27/13	12/30/13	12/30/13	12/30/13

*Approval captured electronically in the electronic RAI system.

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Request for Additional Information 443
Issue Date: 01/09/2014
Application Title: South Texas Project Units 3 and 4 - Dockets 52-012 and 52-013
Operating Company: South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
Review Section: 01.05 - Other Regulatory Considerations
Application Section: 01.05

QUESTIONS

01.05-24

The NRC regulations require in Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50 in Criterion 1, "Quality standards and records, " that "structures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed." In EA-12-049, "Order Modifying Licenses with regard to Requirements for Mitigating Strategies for Beyond-Design-Basis External Events," the Commission ordered that licensees and COL holders establish a three-phase approach for mitigating beyond-design-basis external events (BDBEEs). Section 6.2, "Equipment Quality," of NRC Staff Interim Guidance JLD-ISG-2012-1, "Compliance with Order EA-12-049, Order Modifying Licenses with regard to Requirements for Mitigating Strategies for Beyond-Design-Basis External Events," accepts NEI-12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide," with additional provisions for the quality of equipment used to respond to BDBEEs.

Revision 10 to the STP Units 3 & 4 FSAR Tier 2, Appendix 1E, "Response to NRC Post-Fukushima Recommendations," addresses NRC recommendations and orders in response to the accident at the Fukushima Daiichi Nuclear Power Plant for application to STP Units 3 & 4. In Section 1E.2.4, "Mitigating Strategies for Beyond Design Basis Events (4.2)," Appendix 1E references the STP 3&4 ABWR FLEX Integrated Plan for the STP Units 3 & 4 approach for mitigating a BDBEE patterned after the industry FLEX program with reference to JLD-ISG-2012-1. The STP COL applicant submitted STP 3&4 ABWR FLEX Integrated Plan (Revision 0, dated May 2, 2013, ML13128A140).

Appendix 1E, Section 1E.2.4 in Revision 10 to the STP Units 3 & 4 FSAR Tier 2 states that the STP 3 & 4 FLEX Integrated Plan provides guidance and strategies to restore core cooling, containment cooling, and spent fuel pool cooling following a BDBEE. Section 1E2.4 states that the guidance employs a two-phase approach where Phase 1 uses installed equipment for 36 hours until a transition to Phase 3 with offsite resources. Because of the extended availability of Phase 1 equipment and supplies, the STP 3 & 4 FLEX Integrated Plan states that the Phase 2 interval assumed in EA-12-049 is not needed.

The NRC staff requests that the STP COL applicant describe the performance requirements of:as part of the mitigation strategies for a BDBEE at STP Units 3 & 4 as follows:

a) existing and future safety-related pumps, valves, and dynamic restraints that will be utilized in STP Units 3 & 4 as part of the mitigation strategies for an extended loss of AC power event;

b) existing and future nonsafety-related pumps, valves, and dynamic restraints that will be utilized in STP Units 3 & 4 as part of the mitigation strategies for an extended loss of AC power event; and
c) any portable equipment such as pumps and valves that will be utilized in STP Units 3 & 4 as part of the mitigation strategies for an extended loss of AC power event.

01.05-25

The NRC regulations require in Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50 in Criterion 1, "Quality standards and records, " that "structures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed." In EA-12-049, "Order Modifying Licenses with regard to Requirements for Mitigating Strategies for Beyond-Design-Basis External Events," the Commission ordered that licensees and COL holders establish a three-phase approach for mitigating beyond-design-basis external events (BDBEEs). Section 6.2, "Equipment Quality," of NRC Staff Interim Guidance JLD-ISG-2012-1, "Compliance with Order EA-12-049, Order Modifying Licenses with regard to Requirements for Mitigating Strategies for Beyond-Design-Basis External Events," accepts NEI-12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide," with additional provisions for the quality of equipment used to respond to BDBEEs.

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Appendix 1E, Section 1E.2.4 in Revision 10 to the STP Units 3 & 4 FSAR Tier 2 states that the STP 3 & 4 FLEX Integrated Plan provides guidance and strategies to restore core cooling, containment cooling, and spent fuel pool cooling following a BDBEE. Section 1E2.4 states that the guidance employs a two-phase approach where Phase 1 uses installed equipment for 36 hours until a transition to Phase 3 with offsite resources. Because of the extended availability of Phase 1 equipment and supplies, the STP 3 & 4 FLEX Integrated Plan states that the Phase 2 interval assumed in EA-12-049 is not needed.

The NRC staff requests that the STP COL applicant describe the provisions for design, manufacture, testing, installation, and surveillance to provide assurance of the seismic, environmental, and functional capability of existing and future safety-related pumps, valves, and dynamic restraints to perform their intended functions as part of the mitigation strategies for an extended loss of AC power event at STP Units 3 & 4. As part of this request, the STP COL applicant should indicate whether any safety-related pumps, valves, and dynamic restraints used as part of the mitigation strategies for an extended loss of AC power event will have performance requirements that differ from their original design and performance specification (such as differences in pump net positive suction head available).

01.05-26

The NRC regulations require in Appendix A, “General Design Criteria for Nuclear Power Plants,” to 10 CFR Part 50 in Criterion 1, “Quality standards and records, “ that “structures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed.” In EA-12-049, “Order Modifying Licenses with regard to Requirements for Mitigating Strategies for Beyond-Design-Basis External Events,” the Commission ordered that licensees and COL holders establish a three-phase approach for mitigating beyond-design-basis external events (BDBEEs). Section 6.2, “Equipment Quality,” of NRC Staff Interim Guidance JLD-ISG-2012-1, “Compliance with Order EA-12-049, Order Modifying Licenses with regard to Requirements for Mitigating Strategies for Beyond-Design-Basis External Events,” accepts NEI-12-06, “Diverse and Flexible Coping Strategies (FLEX) Implementation Guide,” with additional provisions for the quality of equipment used to respond to BDBEEs.

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The NRC staff requests that the STP COL applicant describe the provisions for design, manufacture, testing, installation, and surveillance to provide assurance of the seismic, environmental, and functional capability of existing and future nonsafety-related pumps, valves, and dynamic restraints to perform their intended functions as part of the mitigation strategies for an extended loss of AC power event at STP Units 3 & 4.

01.05-27

The NRC regulations require in Appendix A, “General Design Criteria for Nuclear Power Plants,” to 10 CFR Part 50 in Criterion 1, “Quality standards and records, “ that “structures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed.” In EA-12-049, “Order Modifying Licenses with regard to Requirements for Mitigating Strategies for Beyond-Design-Basis External Events,” the Commission ordered that licensees and COL holders establish a three-phase approach for mitigating beyond-design-basis external events (BDBEEs). Section 6.2, “Equipment Quality,” of NRC Staff Interim Guidance JLD-ISG-2012-1,

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The NRC staff requests that the STP COL applicant describe the provisions for design, manufacture, testing, installation, and surveillance to provide assurance of the seismic, environmental, and functional capability of portable pumps, valves, and dynamic restraints that are part of the mitigation strategies for an extended loss of AC power event at STP Units 3 & 4.

01.05-28

The NRC regulations require in Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50 in Criterion 1, "Quality standards and records, " that "structures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed." In EA-12-049, "Order Modifying Licenses with regard to Requirements for Mitigating Strategies for Beyond-Design-Basis External Events," the Commission ordered that licensees and COL holders establish a three-phase approach for mitigating beyond-design-basis external events (BDBEEs). Section 6.2, "Equipment Quality," of NRC Staff Interim Guidance JLD-ISG-2012-1, "Compliance with Order EA-12-049, Order Modifying Licenses with regard to Requirements for Mitigating Strategies for Beyond-Design-Basis External Events," accepts NEI-12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide," with additional provisions for the quality of equipment used to respond to BDBEEs.

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Section 1E2.4 in Appendix 1E to the STP Units 3 & 4 FSAR, Tier 2, states the following:

The detailed procedures and training to support the FLEX Program will be developed during implementation of Operational Programs as discussed in FSAR Section 13.4S in cooperation with STP Units 1 & 2 as a 4-unit site.

STP Units 3 & 4 FLEX Integrated Plan (Revision 0) on page 19 provides the following statement in response to a provision to provide a description of the programmatic controls for equipment protection, storage, and deployment and equipment quality:

STP 3&4 will implement an administrative program whereby the equipment used in these strategies will be controlled with respect to configuration control, maintenance and testing. Preventative Maintenance (PM) activities and inventories will be established for required components and testing procedures will be developed and frequencies established based on type of equipment and considerations made within EPRI guidelines. These programs, maintenance requirements, and procedures, which are part of the STP 3&4 operational programs, will be in place 180 days prior to initial fuel load on Unit 3. It is expected that an NRC inspection of STP 3&4 operational programs will occur prior to fuel load.

Consistent with the provisions for the specific operational programs listed in STP Units 3 & 4 FSAR Tier 2, Section 13.4S, “Operational Program Implementation,” the NRC staff requests that the STP COL applicant provide a description of the operational program referenced in Appendix 1E to the STP Units 3 & 4 FSAR, Tier 2, and the STP Units 3 & 4 FLEX Integrated Plan, that will provide assurance of the functional capability of the pumps, valves, and dynamic restraints used in the mitigation strategies for an extended loss of AC power event at STP Units 3 & 4. In that Appendix 1E, Section 1E2.4 references the operational programs in FSAR Section 13.4S, the staff requests the STP COL applicant to indicate whether the planned operational program to mitigate BDBEEs will be specified in STP Units 3 & 4, FSAR Tier 2, Table 13.4S-1, “Operational Programs Required by NRC Regulation and Program Implementation,” with a milestone for implementation.