

February 26, 2013

Mr. Scott Head, Manager
Regulatory Affairs
STP Units 3 & 4
Nuclear Innovation North America, LLC
122 West Way, Suite 405
Lake Jackson, TX 77566

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 423 RELATED TO
SRP SECTION 01.05 FOR THE NUCLEAR INNOVATION NORTH AMERICA,
LLC 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 Title 10 of the *Code of Federal Regulations* (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.

S. Head

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If you have any questions or comments concerning this matter, I can be reached at 301-415-5787 or by e-mail at rocky.foster@nrc.gov or you may contact George Wunder at 301-415-1494 or george.wunder@nrc.gov.

Sincerely,

/RA George Wunder for/

Rocky D. Foster, Project Manager
Licensing Branch 3
Division of New Reactor Licensing
Office of New Reactors

Docket Nos.: 52-012
52-013

eRAI Tracking No.: 7037

Enclosure:
Request for Additional Information

cc: William Mookhoek
Richard Scheide
Loree Elton

S. Head

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***Approval captured electronically in the electronic RAI system.**

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Request for Additional Information 423

Issue Date: 2/26/2013

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: Section 1.5

QUESTIONS

01.05-6

In response to RAI 01.05-2, the applicant stated that the certified ABWR design provides for reliable level and temperature indication. However, the applicant proposed to enhance the SFP level instrument to ensure that it provides reliable SFP level indication. The applicant proposed to include this information in Appendix (1E) of the FSAR.

The staff reviewed the applicant's response and determined that the response is insufficient to address the staff's concerns described in RAI 01.05-02. The applicant's response proposes to provide detailed design information at a time after the license has been issued. The NRC staff needs sufficient design information in order to reach a safety conclusion within the COLA review. The applicant should address the specific provisions in Interim Staff Guidance (ISG) JLD-ISG-2012-03, "Compliance with Order EA-12-051, Reliable Spent Fuel Instrumentation," (ML12221A339) dated August 29, 2012 that endorses the Nuclear Energy Institute (NEI) 12-02, "Industry guidance for Compliance with NRC Order EA-12-051, "To Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation". The ISG provides an acceptable method for satisfying Order EA-12-051. As stated in the ISG, other methods may be used to satisfy Order EA-12-051, but these methods will be reviewed by the NRC staff on a case-by-case basis to determine their acceptability. If the applicant proposes to use methods that differ from those in the ISG and endorsed guidance, the applicant should explain why these alternative methods are acceptable. Examples where additional information is needed include the following:

- a. In proposed Section 1.2 "Arrangement", of Appendix 1E.2.6 the applicant stated that the instrument channel will be arranged in a manner that provides reasonable protection against missiles, but does not provide examples of possible installation locations or location selection criteria, as described in the ISG.
- b. In proposed Section 1.3 "Mounting", of Appendix 1E.2.6 the applicant stated that the instrument will be mounted to retain its design configuration during and following the maximum seismic ground motion considered in the design, but does not specify that the seismic design of the mounting needs to be consistent with the SFP seismic design or that an evaluation of other hardware stored in the SFP shall be conducted to ensure that this hardware will not cause an adverse interaction with the instrument.

Enclosure

c. In proposed Section 1.4 "Qualification", of Appendix 1E.2.6 the applicant stated that the instrument will be reliable at temperature, humidity, and radiation levels consistent with the spent fuel pool water at saturation conditions for an extended period, however, this is not consistent with the criteria described in Section 3.4 of the NEI guidance which specifies that the instrument shall be reliable at conditions expected during normal operation, events and post-event conditions. The NEI guidance provide example of said conditions. Additionally, the applicant's response does not address the seismic classification of the instrument channel [from alternate power connection to the instrument, and from the instrument to the display] or the instrument itself.

d. In proposed Section 1.6 "Power Supplies", of Appendix 1E.2.6 the applicant stated that the instrumentation channels will also provide for quick and accessible power connections from alternate sources independent of the plant ac and dc power distribution systems. The applicant's response does not specify that the channel shall have the capability to isolate the installed channel from the normal power supply.

e. In proposed Section 1.7 "Accuracy", of Appendix 1E.2.6 the applicant stated that the instrument channels will maintain their designed accuracy following a power interruption or change in power source without recalibration. The applicant's response does not address the minimum accuracy described in the ISG and the NEI guidance. Additionally, the applicant's response does not address that special considerations should be given to the SFP conditions (saturated water, steam environment, concentrated borated water, etc) and how this can affect the instrument accuracy.

f. In proposed Section 1.8 "Testing", of Appendix 1E.2.6 the applicant's response does not state that the instrument shall be designed with the capability of in-situ testing and calibration.

The staff requests the applicant to update FSAR Appendix 1E in order to provide additional design information on the SFP level instrument in order to allow the NRC staff to reach a safety conclusion, to remove reference to a future submittal of design details, and to create an ITAAC to confirm that the installed instrument is properly installed, in the right location, and that it meets all the design features credited in FSAR Appendix 1E.

01.05-7

In the proposed changes to FSAR Appendix 1E.2.6.2, the applicant described that the spent fuel pool instrumentation will be maintained, available, and reliable through appropriate development and implementation of programs for training, procedures, and testing and calibration. The staff reviewed the proposed program descriptions and determined that additional information was needed. For example:

a. In proposed Section 2.2 "Procedures", of Appendix 1E.2.6 the applicant's response stated that procedures shall be established and maintained for the testing, calibration, and use of the spent fuel pool level instrument channels. The staff determined that this program description is not consistent with the program description provided in ISG JLD-ISG-2012-03 and in NEI 12-02(as endorsed by the ISG). The guidance states that procedures shall be developed to address the maintenance, operation and abnormal response issues associated with the instrumentation. Procedures shall also address the installation and use of backup power.

Enclosure

b. In proposed Section 2.3 "Testing and Calibration", of Appendix 1E.2.6 the applicant's response stated that processes will be established and maintained for scheduling and implementing necessary testing and calibration of spent fuel pool level instrument channels to maintain the instrument channels at the design accuracy. The staff determined that this response does not address the backup power source, as described in the guidance. The guidance also provides for surveillances or testing to validate functionality within 60 days of a planned outage, and includes provisions for outage time.

The staff requests the applicant to update FSAR Appendix 1E in order to provide additional program description in FSAR Appendix 1E, and address the guidance provided in ISG JLD-ISG-2012-03, and NEI 12-02, as endorsed by the ISG. If the applicant proposes to use methods that differ from those in the ISG and endorsed guidance, the applicant should explain why these alternative methods are acceptable. The staff considers that the completion of these programs shall be confirmed through a License Condition.

Enclosure