



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

April 6, 2015

LICENSEE: STP Nuclear Operating Company

FACILITY: South Texas Project, Units 1 and 2

SUBJECT: SUMMARY OF FEBRUARY 4, 2015, PUBLIC MEETING WITH STP NUCLEAR OPERATING COMPANY TO DISCUSS THE LICENSE AMENDMENT AND EXEMPTION REQUESTS TO USE A RISK-INFORMED APPROACH TO THE RESOLUTION OF GENERIC SAFETY ISSUE 191, "ASSESSMENT OF DEBRIS ACCUMULATION ON PWR SUMP PERFORMANCE" (TAC NOS. MF2400, MF2401, MF2402, MF2403, MF2404, MF2405, MF2406, MF2407, MF2408, AND MF2409)

On February 4, 2015, a public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of STP Nuclear Operating Company (STPNOC, the licensee), at NRC Headquarters, Rockville, Maryland. The meeting notice and agenda, dated January 20, 2015, are located in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML15034A502. The licensee's handouts from the meeting are available in ADAMS at Accession No. ML15034A114. A list of meeting attendees is provided in the Enclosure to this meeting summary.

By letter dated June 19, 2013 (ADAMS Accession No. ML131750250), as supplemented by letters dated October 3, October 31, November 13, November 21, and December 23, 2013 (two letters); and January 9, February 13, February 27, March 17, March 18, May 15 (two letters), May 22, June 25, and July 15, 2014 (ADAMS Accession Nos. ML13295A222, ML13323A673, ML13323A128, ML13338A165, ML14015A312, ML14015A311, ML14029A533, ML14052A053, ML14072A076, ML14086A383, ML14087A126, ML14149A353, ML14149A354, ML14149A434, ML14178A481, and ML14202A045, respectively), STPNOC submitted exemption requests accompanied by a license amendment request (LAR) for a risk-informed approach to resolve the issue of potential impact of debris blockage on emergency recirculation during design-basis accidents Generic Safety Issue (GSI)-191, "Assessment of Debris Accumulation on PWR [Pressurized-Water Reactor] Sump Performance," at South Texas Project, Units 1 and 2 (STP).

The NRC staff issued a Request for Additional Information (RAI) by letter dated April 15, 2014 (ADAMS Accession No. ML14087A075). The licensee provided its response to the RAI request by letters dated May 22, June 25, and July 15, 2014.

The NRC staff used a webinar format for the meeting and the purpose was to discuss the licensee's proposed change in methodology for resolution of GSI-191. The licensee stated that the proposal is a test-based debris risk assessment referred to as 'Risk over Deterministic' or 'RoverD.'

Meeting Summary

The licensee explained that the motivation for the methodology change include 1) to reduce its reliance on correlations and complexities in the analysis, 2) to reduce the scope of the review by screening out scenarios from the risk analysis, and 3) to add confidence to the risk-based conclusions.

As discussed in the December 1-3, 2014, meeting summary (ADAMS Accession No. ML15020A106), the licensee's RoverD provides a "bounding debris approach." The licensee would use the results of previous strainer testing (performed in July 2008) to find the largest break size below which strainer and in-vessel failures do not occur. The NRC staff observed much of this strainer testing and observed that it was based on staff-approved methods.

Using the deterministic testing results, the licensee would find largest break sizes, which are dependent on the break location, below which strainer and in-vessel failures do not occur. Under this approach, the debris generated at each break location is compared to the debris limit to prevent core damage as determined using the 2008 strainer test data. Breaks with less debris would be counted as successes (no core damage) and those with more debris are counted as failures (core damage). The frequency of the breaks assumed to lead to core damage would be compared to the risk acceptance guidelines in Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," Revision 2, dated May 2011 (ADAMS Accession No. ML100910006).

The licensee stated that for the deterministic evaluation, it would generally use design basis assumptions, for example, two trains of emergency core coolant system/core spray will be assumed to be operating with the third train out of service. The licensee also plans to use a cold-leg break fiber limit of 15 grams which is supported by testing for WCAP-16793, "Evaluation of Long-Term Cooling Considering Particulate, Fibrous and Chemical Debris in the Recirculating Fluid." For the hot-leg break, RELAP analysis has shown that water will enter the core by alternate flowpaths if the core inlet becomes blocked; however, the boric acid precipitation analysis has not been finalized.

The licensee stated that it would use the CASA Grande debris generation and transport methodology to find the smallest break at each location that could lead to exceeding debris limits. The NRC staff noted that independent calculations, using the CASA Grande methodology, were resulting in larger debris masses than those presented by the STPNOC staff. STPNOC and NRC staffs plan to discuss the discrepancy further at a public meeting scheduled for April 8, 2015.

The licensee will also use CASA Grande to calculate in-vessel debris amounts. The NRC staff stated that it is conservative for the strainer evaluation to have fewer trains in service, but for the in-vessel evaluation, it may be conservative to assume that all three trains are in service.

The licensee presented a table showing each risk-significant break, the amount of debris generated and transported, and the diameter of the break as suggested by NRC staff during the December 2014 public meeting.

The licensee presented a table of RAI questions that the licensee proposed would be eliminated by RoverD. The NRC staff stated that the licensee would need to justify the proposed elimination in its response to the RAI. Further, the staff noted during the meeting that some of the questions that STP concluded would be resolved by using the new methodology may still need to be answered. Specifically, the NRC's Safety Issue and Resolution Branch (SSIB) RAIs 27, 31, 33, and 51 were identified as potentially still needing a full response. The staff also requested a status of the response to an RAI issued in 2009 related to Generic Letter 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors" (ADAMS Accession No. ML09341060). The licensee stated that since it is referencing a test that was the subject of several of those questions, it will include responses in its June 2015 supplement.

There was significant discussion regarding the proposed changes to the licensing basis, the technical specifications, and operability. The NRC and licensee will discuss these topics further at the scheduled April 8, 2015, public meeting.

The licensee stated that the testing planned to address strainer head loss discussed during the December 2014 public meeting has been eliminated due to the new RoverD methodology. Additionally, the use of the L* chemical effects correlation discussed during the December public meeting will no longer be necessary with the implementation of the proposed RoverD approach.

The NRC staff stressed that it is important for docketed information on RoverD be provided to NRC staff as soon as possible. The STPNOC staff stated that every attempt would be made to provide a response by March 12, 2015.

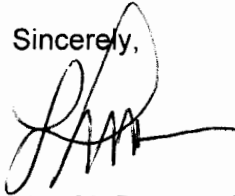
Action Items

No action items were identified.

No Public Meeting Feedback Forms were received for this meeting.

Please direct any inquiries to me at 301-415-1906, or lisa.regner@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Regner', with a long horizontal flourish extending to the right.

Lisa M. Regner, Senior Project Manager
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-498 and 50-499

Enclosure:
List of Attendees

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LIST OF ATTENDEES
FEBRUARY 4, 2015, MEETING WITH STP NUCLEAR OPERATING COMPANY
REGARDING RISK-INFORMED APPROACH TO RESOLUTION OF GSI-191
SOUTH TEXAS PROJECT, UNITS 1 AND 2
DOCKET NOS. 50-498 AND 50-499

NAME	ORGANIZATION
Lisa M. Regner	U.S. Nuclear Regulatory Commission (NRC)
John Stang	NRC
Steve Smith	NRC
Victor Cusumano	NRC
Paul Klein	NRC
Matthew Yoder	NRC
Ashley Guzzetta	NRC
Rob Elliott	NRC
Andrea Russell	NRC
Marioly Diaz-Colon	NRC
CJ Fong	NRC
Y.C. (Renee) Li	NRC
Steve Laur	NRC
Oswaldo Pensado	Southwest Research Institute, NRC Contractor
Steven M. Unikewicz	Alion Science and Technology
Tim Sande	Enercon Services Inc. (Enercon)
Phil Grissom	Southern Nuclear Company
Paul Leonard	Enercon
Steve Blossom	STP Nuclear Operating Company (STPNOC)
Bruce Letellier	Alion Science and Technology (Alion)
Ernie Kee	STPNOC
Janet Leavitt	Alion
Wayne Harrison	STPNOC
Wes Schulz	STPNOC
Mike Murray	STPNOC
Drew Richards	STPNOC
David Johnson	ABS Consulting
Kip Walker	Enercon
Mardy Kazarians	Kazarians & Associates, Inc.
Craig Sellers	Calvert Cliffs
Rasool Baradaran	Pacific Electric & Gas, Diablo Canyon
Roger Andreasen	Ameren Missouri - Callaway
Ron Holloway	Wolf Creek Nuclear Operating Company
Rob Engen	STP Energy Projects

No Public Meeting Feedback Forms were received for this meeting.

Please direct any inquiries to me at 301-415-1906, or lisa.regner@nrc.gov.

Sincerely,

/RA/

Lisa M. Regner, Senior Project Manager
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-498 and 50-499

Enclosure:
List of Attendees

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RidsNrrDssSsib Resource	AGuzzetta, NRR/DSS/SRXB	

ADAMS Accession No.: ML15084A003

* via email

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NAME	LRegner	JBurkhardt	VCusumano	RDennig	HHamzehee
DATE	3/24/15	3/26/15	3/31/15	3/30/15	3/31/15
OFFICE	NRR/DE/ESGB/BC *	NRR/DSS/SNPB/BC *	NRR/DORL/LPL4-1/BC	NRR/DORL/LPL4-1/PM	
NAME	GKulesa	JDean	MMarkley (CLyon for)	LRegner	
DATE	3/30/15	4/3/15	4/3/15	4/6/15	

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