

## **NRR-PMDAPEm Resource**

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**From:** Regner, Lisa  
**Sent:** Tuesday, November 03, 2015 2:30 PM  
**To:** Harrison Albon  
**Subject:** RE: Re: Status of Thermo-Hydraulic questions  
**Attachments:** November 2015 TH Audit.docx

Sorry, Wayne, key players are not available this afternoon for a call. Do you another suggested date/time later this week?

I've attached the Draft Audit Plan again. I believe it sent this a week ago, Friday10/23.

Lisa Regner  
Sr. PM  
NRR/DORL/LPL4-1  
301-415-1906  
O8D08

-----Original Message-----

From: Harrison Albon [mailto:awharrison@STPEGS.COM]  
Sent: Tuesday, November 03, 2015 12:43 PM  
To: Regner, Lisa  
Subject: [External\_Sender] Re: Status of Thermo-Hydraulic questions

...almost forgot... with regard to the audit, the status of an audit schedule/plan

> On Nov 3, 2015, at 11:16 AM, Harrison Albon <awharrison@STPEGS.COM> wrote:

>

> Lisa,

>

> We would like to have a brief logistics/schedule call today, if you can support it.

>

> The required QA for the RELAP5 analysis will probably be completed in January. Since the QA effort is a process confirmation and documentation, we don't expect it to affect the results or methodology. We think the November audit should proceed as discussed. If the staff identifies issues with methodology or input in the audit, we should make sure those are resolved before we complete the QA process which includes re-runng analysis cases.

>

> We have made substantial progress on the CLB definition, particularly with respect to applicability of past RAIs to our current submittal. We would like to share that information with the staff prior to our upcoming public call so we can discuss it before we put it on the docket. We can also use the public call as an opportunity to discuss how we view RELAP5 with respect to the current licensing basis. I think that call was tentatively set for the week of 11/16 (same week as the audit).

>

> Regards,

> Wayne

>

>

>  
>> On Nov 2, 2015, at 12:25 PM, Regner, Lisa <Lisa.Regner@nrc.gov> wrote:  
>>  
>> **\*\*THIS EMAIL IS FROM AN EXTERNAL SENDER OUTSIDE OF THE STPNOC  
>> NETWORK. BE CAUTIOUS ABOUT CLICKING LINKS OR OPENING ATTACHMENTS FROM  
>> UNKNOWN SOURCES. DO NOT PROVIDE PERSONAL INFORMATION SUCH AS SS#,  
>> USER ID/PASSWORD, ETC.\*\***  
>>  
>>  
>>  
>> No, not necessarily looking for a docketed response right now; just how you plan to proceed.  
>>  
>> What is your schedule for completing the STP calculation and preparing the appropriate QA for review? What about  
the schedule for CLB changes requested?  
>>  
>> I'll call tomorrow, I have a short turnaround item to complete this afternoon.  
>>  
>> Lisa Regner  
>> LPL4-1 PM  
>> NRR/DORL  
>> 415-1906  
>>  
>>  
>> -----Original Message-----  
>> From: Harrison Albon [mailto:awharrison@STPEGS.COM]  
>> Sent: Monday, November 02, 2015 1:14 PM  
>> To: Regner, Lisa  
>> Cc: Kee, Ernie; Blossom, Steven; Murray, Michael  
>> Subject: [External\_Sender] Re: Status of Thermo-Hydraulic questions  
>>  
>> Are you expecting a docketed RAI response to the 10/21 questions prior to the audit?  
>>  
>> With respect to the QA for RELAP5, we are going to reperform the calculation in accordance with STP's OQAP  
requirements.  
>>  
>> Glad you had a good tour. Wes is a very good GSI-191 tour guide.  
>>  
>> Please give me a call.  
>>  
>> Regards,  
>> Wayne  
>> (979) 292-6413  
>>  
>> On Nov 2, 2015, at 11:01 AM, Regner, Lisa <Lisa.Regner@nrc.gov<mailto:Lisa.Regner@nrc.gov>> wrote:  
>>  
>> **\*\*THIS EMAIL IS FROM AN EXTERNAL SENDER OUTSIDE OF THE STPNOC  
>> NETWORK. BE CAUTIOUS ABOUT CLICKING LINKS OR OPENING ATTACHMENTS FROM  
>> UNKNOWN SOURCES. DO NOT PROVIDE PERSONAL INFORMATION SUCH AS SS#,  
>> USER ID/PASSWORD, ETC.\*\***  
>>  
>>  
>> Wayne,

>> What is the status of the NRC questions sent on 10/21? We are moving forward with our audit plans the week of 10/16, but your answer to the QA issue may impact the schedule.

>>

>> Also, please let me know who will be on the audit if you still intend to support.

>>

>> FYI: I received a good GSI-191 tour from Wes last week. We didn't get to see everything due to locked radiation area restrictions, but it was still extremely informative.

>>

>> Thanks,

>> Lisa

>>

>> Lisa Regner

>> Sr. Project Manager, LPLIV-1

>> Division of Operating Reactor Licensing Office of Nuclear Reactor

>> Regulation

>> 301-415-1906

>> Lisa.Regner@nrc.gov<mailto:Lisa.Regner@nrc.gov>

>>

>

**Hearing Identifier:** NRR\_PMDA  
**Email Number:** 2752

**Mail Envelope Properties** (Lisa.Regner@nrc.gov20151103143000)

**Subject:** RE: Re: Status of Thermo-Hydraulic questions  
**Sent Date:** 11/3/2015 2:30:14 PM  
**Received Date:** 11/3/2015 2:30:00 PM  
**From:** Regner, Lisa

**Created By:** Lisa.Regner@nrc.gov

**Recipients:**  
"Harrison Albon" <awharrison@STPEGS.COM>  
Tracking Status: None

**Post Office:**

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	4236	11/3/2015 2:30:00 PM
November 2015 TH Audit.docx	36311	

**Options**  
**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**

## **Audit for Understanding of South Texas Project's Evaluation Model Used to Support Closure of GSI-191**

### BACKGROUND

By letter dated August 20, 2015 (Reference 1), STP Nuclear Operating Company (STPNOC) provided Supplement 2 to their Risk-Informed Approach for addressing Generic Safety Issue 191 (GSI-191). This is the most current reference that describes STP's approach and their use of RELAP5-3D for the thermo-hydraulic analysis of in vessel effects during accidents. RELAP5-3D is an evaluation model used by STP in their GSI-191 resolution approach, but it has not been approved generically for use by the NRC staff.

The NRC staff has proposed to conduct a regulatory audit at a mutually agreeable site with access to RELAP5-3D information in an effort to increase efficiency in the review. The scope of this audit will be to help the staff gain a better understanding of the thermo-hydraulic in-core effects of debris during loss of coolant accidents evaluated using the RELAP5-3D computer code. This audit will focus on decreasing the time for the staff to gain a thorough understanding of the material under review and to assist in completing the NRC staff review.

The NRC staff has performed a review of the submitted information and expects the audit to increase their level of knowledge and understanding in technical discussions with knowledgeable STP staff and contractors that have applied the RELAP5-3D platform and other questions associated with the thermo-hydraulic review. The regulatory audit will be held in accordance with NRR procedure as described in the Office of Nuclear Reactor Regulation's Office Instruction LIC-111 *Regulatory Audits* (ML082900195).

### REGULATORY AUDIT SCOPE

In an effort to increase efficiency in the NRC staff's review of the thermo-hydraulic evaluation of in-core effects of debris, the NRC staff will gain a better understanding of the material presented for review by discussions with the appropriate authors of the various submittals.

The NRC staff would like STP to make available the appropriate engineer(s) with knowledge of the RELAP5-3D evaluation model and analysis who can address questions from the NRC staff. These questions will likely include the following topics:

- how the RELAP5-3D evaluation model is defined,
- what scenarios is the evaluation model simulating,
- what is the progression of each simulation,
- what Verification, Validation, and Uncertainty Quantification has been performed

### TEAM AND REVIEW ASSIGNMENTS

Joshua Kaizer, NRR/DSS/SNPB – Nuclear Performance and Code Review Branch, Lead technical review

Reed Anzalone, NRR/DSS/SNPB – Nuclear Performance and Code Review Branch, technical review

Lisa Regner, NRR/DORL/LPL4-1, Senior Project Manager

Vic Cusumano, NRR/DSS/SSIB – Branch Chief

Jeremy Dean, NRR/DSS/SNPB – Branch Chief

## LOGISTICS

Audit Dates: Tuesday November 17, 2015 – Thursday November 19, 2015

Audit Location: Per STP's request, the audit will take place at Texas A&M University.

Other requests: STP should provide a conference room [with internet access, if possible] for staff to work; and another room, if possible, for breakout discussions. STP should provide access to documents related to the RELAP5-3D evaluation model<sup>1</sup>, access to the output from the evaluation model, and access to staff knowledgeable in the evaluation model and the output.

Audit Call: an audit call to discuss any questions and logistics details will be planned for the week of November 2<sup>nd</sup> or 9<sup>th</sup> as STP and NRC staff are available.

## DELIVERABLES

A regulatory audit summary is typically provided within 90 days of the completion of the audit per LIC-111. The NRC staff will also use the information gathered from the audit to draft questions to be provided to the licensee as a Request for Additional Information following the audit.

## REFERENCES

1. Powell, G.T, South Texas Project Nuclear Operating Company, letter to U.S. Nuclear Regulatory Commission, "Supplement 2 to STP Pilot Submittal and Requests for Exemptions and License Amendment for a Risk-Informed Approach to Address Generic Safety Issue (GSI)-191 and Respond to Generic Letter (GL) 2004-02 (TAC NOS. MF2400 - MF2409)", NOC-AE-15003241, August 20, 2015, ADAMS Accession No. ML15246A126.

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<sup>1</sup> For purposes of this document, an evaluation model is the calculational framework for evaluating the behavior of the reactor system during a postulated loss-of-coolant accident (LOCA), specifically the "Long-Term" cooling portion of the event. It includes one or more computer programs and all other information necessary for application of the calculational framework to a specific LOCA, such as mathematical models used, assumptions included in the programs, procedure for treating the program input and output information, specification of those portions of analysis not included in computer programs, values of parameters, and all other information necessary to specify the calculational procedure.

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