

## SeabrookNPEM Resource

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**From:** Plasse, Richard  
**Sent:** Monday, January 31, 2011 9:37 AM  
**To:** Cliche, Richard  
**Subject:** FW: Seabrook RAI follow-up TRP-3  
**Attachments:** SBK\_AMP\_RAI\_2\_1\_3-2\_Followup\_-\_Rx\_Head\_Studs\_(TRP\_3)\_Pan\_SMin\_1-27-2011\_for\_BC\_oyee SMin (Clean).doc

**Importance:** High

[Draft rai](#)

**Hearing Identifier:** Seabrook\_License\_Renewal\_NonPublic  
**Email Number:** 2244

**Mail Envelope Properties** (Richard.Plasse@nrc.gov20110131093600)

**Subject:** FW: Seabrook RAI follow-up TRP-3  
**Sent Date:** 1/31/2011 9:36:53 AM  
**Received Date:** 1/31/2011 9:36:00 AM  
**From:** Plasse, Richard

**Created By:** Richard.Plasse@nrc.gov

**Recipients:**  
"Cliche, Richard" <Richard.Cliche@fpl.com>  
Tracking Status: None

**Post Office:**

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	11	1/31/2011 9:36:00 AM
SBK_AMP_RAI_2_1_3-2_Followup_-_Rx_Head_Studs_(TRP_3)_Pan_SMin_1-27-2011_for_BC_oyee SMin (Clean).doc	34374	

**Options**

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

## DRAFT

### Seabrook Reactor Head Closure Studs Program

#### RAI B.2.1.3-2 Follow-up

##### Background

RAI B.2.1.3-2, in part, requested the applicant to clarify whether the lubricant, which is used for the installation and removal of the reactor head closure studs, is stable at the operating temperatures of the reactor head closure studs. In its response dated January 13, 2011, the applicant stated that the lubricant (WD-40) has an operating temperature range from -10°F to 200°F in comparison with the operating temperature of the reactor head closure studs which is estimated to approach 500°F. The applicant also stated that according to the manufacturer of the lubricant, when the lubricant is exposed to the reactor vessel metal temperature at operating condition, it would carbonize.

RG 1.65, which is referenced in the GALL Report, addresses the guidance that lubricants for the stud bolting are permissible provided they are stable at operating temperatures of the reactor head closure stud bolting.

##### Issue

The staff noted that the operating temperature range of the applicant's lubricant (-10 to 200 °F) is significantly lower than the operating temperature of the reactor head closure studs that is estimated to approach 500 °F by the applicant. The staff also noted that the lubricant carbonizes at the operating temperature of the closure studs. Therefore, the applicant's use of the lubricant is not consistent with the guidance in RG 1.65 that lubricants for the stud bolting are permissible provided they are stable at operating temperatures of the reactor head closure stud bolting.

In addition, the staff finds a concern that the carbonization of the lubricant and accumulation of carbonization by-products on the studs and flange threads degrade the lubrication process of the bolting such that the removal operation of the studs may cause sticking, galling or thread damage of the reactor head closure bolting.

##### Request

1. Justify why the use of the lubricant (WD-40), the operating temperature of which is significantly lower than that of the reactor head closure studs, is consistent with the guidance in RG 1.65 and GALL Report that lubricants for the stud bolting are permissible provided they are stable at operating temperatures of the reactor head closure stud bolting, as addressed in LRA Section B.2.1.3 stating the applicant's implementation of the guidance in RG 1.65 for lubricants.

In addition, justify the use of the lubricant (WD-40), which has an operating temperature range from -10°F to 200°F, on the reactor head closure studs, which has an operating temperature that is estimated to approach 500°F. If a justification for the use of this lubricant cannot be provided, commit to the use of a lubricant that will remain stable at operating temperatures of the reactor head closure stud bolting.

## **DRAFT**

2. Justify why the carbonization of the lubricant and accumulation of carbonization by-products on the studs and flange threads do not cause sticking, galling or thread damage of the studs and flange threads. As part of the justification, clarify whether the applicant's operating experience is in agreement with the justification.