

**From:** Michael Scott  
**To:** John Butler  
**Date:** 01/22/2008 10:25:34 AM  
**Subject:** FEEDBACK ON GL 2004-02 RESPONSES

John:

Based on a quick review of one of the GL 2004-02 packages that we have received to date, we provide you the attached feedback that can be shared with your members. There may be a couple of additional items later in the week, but I wanted to put this in your hands ASAP.

The presence of an item in the attachment means that the staff believes the package reviewed should have provided more information in the subject area. This feedback is intended to inform the other licensees so the NRC staff will not have the same issues regarding information to be provided in the GL 2004-02 responses yet to be submitted. Some of the items may not be applicable to a given plant, though *most are fairly general and would be applicable to all plants. Depending on how the staff's holistic review turns out for each plant, plants not providing this information might see requests for additional information from the staff.*

Thanks for facilitating this communication.

Michael L (Mike) Scott  
Chief, Safety Issues Resolution Branch  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Phone (301) 415-0565

**CC:** GSI-191; William Ruland

**Mail Envelope Properties** (47960AEE.430 : 13 : 9524)

**Subject:** FEEDBACK ON GL 2004-02 RESPONSES  
**Creation Date** 01/22/2008 10:25:34 AM  
**From:** Michael Scott  
**Created By:** MLS3@nrc.gov

<b>Recipients</b>	<b>Action</b>	<b>Date &amp; Time</b>
nei.org AM jcb (John Butler)	Transferred	01/22/2008 10:25:55
nrc.gov OWGWPO01.HQGWDO01 AM AEB1 CC (Aleem Boatright) JPB3 CC (John Burke) REA CC (Ralph Architzel) AM	Delivered	01/22/2008 10:25:37
nrc.gov OWGWPO02.HQGWDO01 AM AXI CC (Ata Istar) EXG CC (Ervin Geiger) AM JAG2 CC (Joe Golla)	Delivered	01/22/2008 10:25:36
nrc.gov OWGWPO03.HQGWDO01 AM TEC CC (Timothy Collins)	Delivered	01/22/2008 10:25:36
nrc.gov OWGWPO04.HQGWDO01 AM ALH1 CC (Allen Hiser) AM PAK CC (P��ul Klein)	Delivered	01/22/2008 10:25:35
nrc.gov TWGWPO01.HQGWDO01 AM	Delivered	01/22/2008 10:26:12
nrc.gov OWGWPO01.HQGWDO01 AM	Delivered	01/22/2008 10:25:36

JXL4 CC (John Lehning)  
RRL CC (Ralph Landry)

nrc.gov  
TWGWPO02.HQGWDO01  
AM  
Delivered 01/22/2008 10:25:35  
RLT1 CC (Roberto L Torres)  
SJS2 CC (Stephen Smith)

nrc.gov  
TWGWPO03.HQGWDO01  
AM  
Delivered 01/22/2008 10:25:36  
WHR CC (William Ruland)

nrc.gov  
TWGWPO04.HQGWDO01  
AM  
Delivered 01/22/2008 10:25:36  
LEW1 CC (Leon Whitney)  
MGY CC (Matthew Yoder)

Post Office	Delivered	Route
		nei.org
OWGWPO01.HQGWDO01	01/22/2008 10:25:37 AM	nrc.gov
OWGWPO02.HQGWDO01	01/22/2008 10:25:36 AM	nrc.gov
OWGWPO03.HQGWDO01	01/22/2008 10:25:36 AM	nrc.gov
OWGWPO04.HQGWDO01	01/22/2008 10:25:35 AM	nrc.gov
TWGWPO01.HQGWDO01	01/22/2008 10:25:36 AM	nrc.gov
TWGWPO02.HQGWDO01	01/22/2008 10:25:35 AM	nrc.gov
TWGWPO03.HQGWDO01	01/22/2008 10:25:36 AM	nrc.gov
TWGWPO04.HQGWDO01	01/22/2008 10:25:36 AM	nrc.gov

Files	Size	Date & Time
MESSAGE	1767	01/22/2008 10:25:34 AM
GL 04-02 fdbk.doc	34304	01/22/2008 10:20:30 AM

**Options**

<b>Auto Delete:</b>	No
<b>Expiration Date:</b>	None
<b>Notify Recipients:</b>	Yes
<b>Priority:</b>	Standard
<b>Reply Requested:</b>	No
<b>Return Notification:</b>	None
<b>Concealed Subject:</b>	No
<b>Security:</b>	Standard

**To Be Delivered:**  
**Status Tracking:**

Immediate  
Delivered & Opened

PREDECISIONAL DRAFT

JANUARY 22, 2008

1. Page 1 of the NRC's Content Guide states: "The GL supplemental response should begin with a summary-level description of the approach chosen... The summary should address significant conservatisms and margins that are used to provide high confidence that the issue has been addressed even with uncertainties remaining." Licensees should remember that the staff will need to validate a holistic safety case for each plant, based on information provided by the licensee. This section (not numbered in the Content Guide) is important in making that case. Each licensee submitting a response has presumably concluded it has completed corrective actions (possibly with stated exceptions); this "up front" part of the submittal should provide the overall argument that is the basis for that conclusion. More than just a list of conservatisms, it paints the overall picture of how the plant has confidence they are in compliance.
2. In addition to referring to the staff's Content Guide, licensees should review the staff's draft (soon to be final) review guidance for expectations of information to be provided in the areas of chemical effects, head loss testing/vortexing, and coatings. (Drafts are at ML072600372, ML072600348, and ML072600335.)
3. In responding to Content Guide item 3.p, licensees should remember that licensing bases include design basis information as defined in 10 CFR 50.2 and documented in the final safety analysis report, not just technical specifications, so the summary of changes to licensing bases should address changes made to design basis information as well.
4. Licensees will minimize the chance of requests for additional information (RAIs) by specifically addressing all the information requests in the staff's Content Guide (at the bullet level). All assumptions and bases requested by the content guide should be supplied, in sufficient detail for the staff to conclude that the submittal conclusions are reasonable. For questions that request an amount, an amount should be provided. When this amount is requested to be justified, a technical justification for the specific amount should be supplied.
5. In the debris characteristics area, licensees should justify debris size distributions for debris sources for which a reduced zone of influence (ZOI) has been determined by testing. The default size distributions in the staff's 2004 safety evaluation (SE) have been derived for the ZOIs approved in the SE. Usage of a default size distribution with a reduced ZOI may be non-conservative because higher average jet pressures inside reduced ZOIs can result in an increased degree of damage to the debris.
6. In response to item 3.e, 2<sup>nd</sup> bullet, in the debris transport area, licensees should list the specific refinements and deviations to the approved SE guidance that were incorporated in their transport calculations so that the staff can understand how the calculation was performed.
7. In the net positive suction head (NPSH) area, licensees using a time- or temperature- dependent NPSH evaluation should provide the time or temperature trends of NPSH.

PREDECISIONAL DRAFT

## PREDECISIONAL DRAFT

8. Regarding head loss testing, considerations include:
  - Where the staff has raised concerns regarding test protocols, licensees should in some manner respond to them, summarizing how they have been resolved or justifying how remaining discrepancies would not affect conclusions the licensee has reached in their submittal.
  - Licensees should discuss anomalies observed during testing and summarize evaluation of whether the anomalies could have affected the head loss result nonconservatively.
  - If an anomaly could indicate that channeling or bore holes were present and temperature correction was performed, the licensee should provide a summary of the evaluation of the acceptability of the correction.
  - An explanation of the acceptability of any scaling of test data to different velocities or temperatures should be presented.
  - A justification for extrapolation methods or non-extrapolation of test results out to the ECCS mission time should be presented.
  - If the head loss across the strainer including debris and clean strainer components is greater than the strainer minimum submergence, licensees should explain why flashing will not occur in the debris bed or within the strainer.
  - If a thin bed was not considered the limiting debris bed for head loss, licensees should explain how the thin bed was eliminated as a limiting concern.
  
9. The NRC's SE for WCAP-16406-P did not reach conclusions on aspects of that report regarding in-vessel downstream effects, considering that the subject would be addressed in detail in WCAP-16793-NP. Licensees reaching conclusions regarding adequacy of core cooling in the presence of possible debris blockage without reference to WCAP-16793 and the staff's draft conditions and limitations on use of WCAP-16793 (to be provided last week in January 2008) should provide additional explanation of the method used.