

From: Samuel Collins
To: Allen Hiser; Brian Sheron; Stacey Rosenberg - EDO
Date: 11/28/01 7:33AM
Subject: Re: Fwd: Davis Besse Order

Brian, I suggest that you and or the staff brief Brian rather than provide him a written product at this point.
Sam

>>> Allen Hiser 11/27/01 12:03PM >>>
I have drafted responses to the questions from Brian McCabe (below in **bold**).

Comments, additions and deletions are greatly appreciated.

Allen

From B. McCabe, OCM
email dtd 11/26/01

Some questions/comments I have include:

1. The staff's basis for the Order is not entirely clear to me. Which of the following reasons is the primary basis for the Order?:

a) it is highly probable that DB is currently experiencing pressure boundary leakage and is operating in violation of its TSs? (pg 10)

b) the level of cracking that has been found at similar facilities, if not promptly corrected, could result in a gross failure of the RCS pressure boundary and consequently a loss of coolant boundary. "Such a failure would result in a significant decrease in the assurance of adequate protection of the public health and safety". (pg 3)

or

c) Failure of DB to inspect in the manner supported by the staff is inconsistent with the 3 GDC referenced by the staff (pg 13/14)?

The answer is a little bit of all three. The core basis for the proposed DB order is the safety concern that there is a high likelihood, given the experience at other similar facilities, that DB could have significant circumferential cracking that could result in a LOCA. There are compliance issues, e.g., the tech specs, GDC and Appendix B, but the safety issue is the driving force for the proposed DB order.

2. On page 6, the staff indicates "Performance of the recommended examinations of all vessel head penetration nozzles is expected to provide reasonable assurance that a crack of significant size does not exist." Going back to #1, this statement is a little confusing. As I understood the staff from our last briefing, our standard for questioning continued operation is not "crack of significant size", our standard is "any crack". If I am correct, why are we focusing most of our attention in the Order on crack size? If my understanding is incorrect, what is the threshold for "significant"?

With the above response to #1, the proposed order is directed at inspections which would demonstrate that the safety issue is not applicable to DB. The threshold for a "significant" crack would depend on the margin that one wants to put on flaw size, including consideration of uncertainty in NDE sizing. We expect that nozzle failure or ejection would not occur without a flaw greater than ~ 324 degrees; to provide margin against uncertainties in the analysis used to determine this "failure" crack size and to account for NDE sizing uncertainty, the flaw size of concern from a safety basis would be anything greater than ~165 degrees, assuming an ASME

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Code size of 270 degrees and an NDE sizing 'error' of 105 degrees (consistent with the findings at Oconee Unit 3 in the spring).

3. Given that the staff has concluded that "ASME Code requirements are not adequate to detect degradation in the nozzles", it is not clear to me how even the low and medium susceptible plants meet the GDC discussed on pgs 13 & 14. Please clarify. Thanks

It isn't clear that the ASME Code inspections are sufficient for long term management of this issues for any plants. However, within the context of the Bulletin and its short-term data collection purposes, combined with an expectation of a low likelihood of cracking at the low and moderate susceptibility plants, continuance of the ASME Code inspections for the short term at these plants is not unacceptable. As a part of its Bulletin activities, the staff is developing a position on appropriate long-term measures that will satisfy both the safety and the compliance issues (including the GDC) for nozzle cracking.

4. On page 3 of the Order, last sentence. "... if left uncorrected in a prompt manner, could result in gross failure of the reactor coolant pressure boundary in the form of a vessel head penetration nozzle failure, and consequently a loss of coolant accident." Yet, on Page 7 of the Order, the staff summarizes the cracking to date and indicates that "The results of these inspections have not revealed conditions of incipient failure." Does the staff have a technical basis that shows why Dec 31st is prompt enough but Feb/March is not "prompt" enough, especially since none of the inspections to date have revealed conditions of incipient failure?

There is no technical basis that can distinguish December 31 from February/March, or even from today. The basis for seeking a prompt inspection at DB is the high likelihood that a large circumferential crack could exist at the plant (principally based on the findings at similar plants). The delay in inspection from today until December 31 does not have a technical basis but is instead based on discretion to allow the licensee to align contractor assets for implementing the inspection.

5. Could you help me better understand the basis for allowing the deferral of inspections at DC Cook?

The deferral of inspection for DC Cook Unit 2 until January 19, 2002, is based on the unlikely existence of a large circumferential crack at the plant, and hence the unlikelihood of a LOCA. This is partly based on the experience at plants similar to DC Cook Unit 2. Conversely, the findings of large circumferential cracks at three plants similar to Davis-Besse make it likely that a large circumferential crack could exist at Davis-Besse, and hence the need for a more timely inspection.

>>> Stacey Rosenberg 11/26/01 03:25PM >>>

Brian,

I have attached questions from Brian McCabe in Commissioner Merrifield's office. In his e-mail, Brian requests answers after a meeting on Wednesday with FENOC. I understand that a Wednesday meeting with the licensee is tentative. Would you please provide me with responses to Brian's questions at your earliest convenience.

Thank you,
Stacey

CC: Bill Bateman; Farouk Eltawila; Gary Holahan; Jack Strosnider; Jacob Zimmerman; John Zwolinski; Jon Johnson; Joseph Shea; Keith Wichman; Lawrence Burkhart; Richard Barrett; Tad Marsh; William Kane