From: "Robert L Gill Jr" <rlgill@duke-energy.com>
To: <RLF2@nrc.gov>
Date: 6/7/02 8:10AM
Subject: Proposed Text for WOG Request (WCAP-15338)

Rani fyi, this email was initially sent to the NRC technical staff. I thought that you should be aware of it. Bob
----- Forwarded by Robert L Gill Jr/Gen/DukePower on 06/07/2002 08:08 AM

Mary H Hazeltine
06/07/2002 07:58 AM

To: Robert L Gill Jr/Gen/DukePower@DukePower
cc:
bcc:
Subject: Proposed Text for WOG Request (WCAP-15338)

This is the proposed clarification to the NRC. I guess Charlie will get feedback from them.
----- Forwarded by Mary H Hazeltine/Cust/DukePower on 06/07/2002 08:00 AM

"Meyer, Charles E." <meyerce@westinghouse.com>
06/06/2002 03:01 PM

To: '"SKM1@nrc.gov"' <SKM1@nrc.gov>, '"BJE@nrc.gov"' <BJE@nrc.gov>
cc: "Richardson, Philip W. (Notes)" <philip.w.richardson@us.westinghouse.com>, '"Hazeltine, Mary"' <mhhazelt@duke-energy.com>, '"roger.newton@nmcco.com"' <roger.newton@nmcco.com>
bcc:
Subject: Proposed Text for WOG Request (WCAP-15338)

<<WOG underclad response_.doc>>

SK,

The enclosed document contains the clarifications needed to justify the WOG request that the SER issued for WOG WCAP-15338 be modified (letter OG-02-004, January 22, 2002). I believe that the text addresses the understanding reached between Barry Elliot of NRC and Warren Bamford of Westinghouse during prior conversations. Please advise if this clarification is adequate, or identify if/where additional clarification is required.

If this clarification is considered to be acceptable, I will provide the

same in a formal WOG letter.

Regards,
Charlie Meyer
(See attached file: WOG underclad response_.doc)

Westinghouse submitted WCAP-15338 to provide a technical basis for the integrity of the reactor vessels for all Westinghouse plants, in the presence of underclad cracks. After resolution of several Requests for Additional Information, the NRC drafted a Safety Evaluation Report accepting the analysis work, but specifying that the SER applied only for three loop plants (the plant type used for the sample calculations), as stated below:

> *The license renewal applicant is to verify that its plant is bounded by the WCAP-15338 report. Specifically, the renewal applicant with a 3-loop RPV is to indicate whether the number of design cycles and transients assumed in the WCAP-15338 analysis bounds the number of cycles for 60 years of operation of its RPV. The renewal applicant with a 2-loop or 4-loop RPV needs to demonstrate that the transients for normal, upset, emergency, faulted, and PTS conditions used in WCAP-15338 report bound their plant-specific transients for these conditions. Otherwise, they need to perform similar Section XI flaw evaluations using their plant-specific transients to demonstrate that their RPVs with underclad cracks are acceptable for 60 years of operation.*

The purpose of this note is to clarify the original intent of the WCAP-15338 report, and to request that the NRC consider rewording the SER, so that it covers all the Westinghouse plants: two, three, and four loop designs.

The essential elements of the WCAP-15338 evaluation were a treatment of Pressurized Thermal Shock, and a series of fatigue crack growth calculations to consider the potential propagation of the underclad cracks. Each of these topics will be discussed below.

1. Pressurized thermal shock. The results for PTS for all the Westinghouse plant designs are very similar, but the governing plant type is the three loop plant, because it has the highest predicted end-of-life fluence in the core region. Therefore, the plant type discussed in the WCAP will be conservative for all Westinghouse designs.

2. Fatigue crack growth. The operating transients are all very similar for all the Westinghouse designs, two, three, and four loop plants. Results have been obtained for all three plant types, and show very little difference. Therefore the three loop plant results presented in the report are typical for all Westinghouse plants.

From the discussion above, it may be concluded that the Westinghouse three loop results presented and discussed in WCAP-15338 are conservative and applicable for all the Westinghouse operating plants.

Therefore, we respectfully request that the SER be revised to cover all Westinghouse designs.