Whited, Jeffrey

From: Poehler, Jeffrey
Sent: Monday, April 28, 2014 11:55 AM
To: Whited, Jeffrey
Subject: Summary of March 18, 2014 Teleconference with FENOC Clarifying March 7. 2014 RAI Response Related to PTLR

Jeff,

The NRC staff and FENOC had a teleconference on March 18, 2014. The purpose of the teleconference was to clarify FENOC's March 7, 2014 response to the staff's February 10, 2014, request for additional information (RAI) related to Revision 6 of the Beaver Valley Power Station, Unit No. 2 (BVPS-2) Pressure and Temperature Limits Report (PTLR). NRC staff members participating in the teleconference were Jeffrey Whited, Project Manager for BVPS-2, Division of Operating Reactor Licensing, and Jeff Poehler from the Vessel and Internals Integrity Branch, Division of Engineering.

In its RAI response, FENOC indicated that the initial (unirradiated) reference temperature, nil-ductility transition (RT_{NDT}) values in PTLR table 5.2-7 were based on an error in the Certified Material Test Reports (CMTRs) for the nozzles, in which the Charpy V-Notch test temperature was incorrectly documented as the T_{NDT}. However, since the resulting initial RT_{NDT} values were higher, the reactor vessel integrity calculations based on these values were conservative. However, since the error is in a conservative direction (resulted in higher initial RT_{NDT} values), FENOC concluded the existing reactor vessel integrity calculations remain valid. (The staff notes that the only reactor vessel integrity calculation results for the inlet nozzles included in the PTLR are the calculations of the pressurized thermal shock reference temperature (RT_{PTS}).) The NRC staff asked for clarification on which set of initial RT_{NDT} values is correct for the reactor pressure vessel inlet nozzles, and would be used if pressure-temperature limit curves were generated specifically for the inlet nozzles.

In the teleconference, FENOC clarified that for two of the inlet nozzles (Code Numbers B9011-1 and B9011-3) the nil-ductility temperature (T_{NDT}) value was incorrectly listed on the CMTR as the Charpy V-Notch Temperature at which an impact energy of 50 foot-pounds (ft-lbs) was achieved. Since per the current ASME Code, Section III requirements for determining RT_{NDT}, the RT_{NDT} is equal to T_{NDT} (determined by a drop-weight test) if a Charpy V-notch energy of 50 ft-lbs is achieved at a temperature of T_{NDT} + 60 °F or less, the RT_{NDT} values should have been equal to the T_{NDT} of 0 °F and 20 °F for these two nozzles, as given in FSAR Table 5.3-1. For the other nozzle (Code Number B9011-2), Charpy V-notch energy value of 50 ft-lbs was achieved at a temperature less than T_{NDT} + 60 , so RT_{NDT} should also equal the T_{NDT} of 10 °F given in FSAR Table 5.3-1. FENOC stated that the determination of the nozzle material RT_{NDT} would have met current ASME Code requirements.

The NRC staff asked which set of initial RT_{NDT} values would be appropriately used as the basis for determining the adjusted reference temperature, if a pressure-temperature limit curve were generated specifically for the inlet nozzles. FENOC replied that in this case, the FSAR Table 5.3-1 values should be used.

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