

September 13, 2002

Mr. M. S. Tuckman  
Executive Vice-President  
Nuclear Generation  
Duke Energy Corporation  
P.O. Box 1006 EC07H  
Charlotte, NC 28201-1006

SUBJECT: REQUEST OF REVISED TIME-LIMITED AGING ANALYSES ASSOCIATED WITH REACTOR VESSEL NEUTRON EMBRITTLEMENT FOR THE STAFF'S REVIEW OF THE LICENSE RENEWAL APPLICATION FOR MCGUIRE, UNIT 1

Dear Mr. Tuckman:

During a conference call on August 22, 2002, between Duke Energy Corporation (Duke) personnel (Jeff Gilreath, P.T. Vu, et al.) and the NRC staff (Stephanie Coffin, Barry Elliot, Matthew Mitchell, and Bob Martin), Duke representatives noted that new information relevant to the evaluation of the integrity of the McGuire, Unit 1, reactor pressure vessel (RPV) had been obtained. This information consisted of test results for the surveillance weld (tandem weld wire heat number 21935/12008) from the fourth Diablo Canyon, Unit 2, RPV surveillance capsule. The McGuire, Unit 1, lower RPV shell axial welds also were fabricated from this tandem weld wire heat. Therefore, the data from the Diablo Canyon, Unit 2, RPV surveillance program is relevant to the evaluation of the integrity of the McGuire, Unit 1, RPV. Previously, the use of the surveillance weld data from the first three Diablo Canyon, Unit 2, surveillance capsules for the evaluation of the McGuire, Unit 1, RPV had been established as part of the current McGuire, Unit 1, licensing basis. During the August 22, 2002, conference call, members of your staff indicated that the existing pressurized thermal shock (PTS) evaluations (based on the first three Diablo Canyon, Unit 2, surveillance capsules) for the McGuire, Unit 1, lower RPV shell axial welds may be affected by the recent surveillance weld test results.

Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.61 establishes criteria that must be met for licensees to demonstrate that a facility's RPV will be adequately protected from failure during PTS events. Section 50.61(b)(1) of 10 CFR states that an assessment against the criteria in 10 CFR 50.61 must be performed "...upon request for a change in the expiration date for operation of the facility." Further, 10 CFR 50.61(c)(2) requires that, when such an assessment is made, "...licensees shall consider plant-specific information that could affect the level of embrittlement. This information includes...any related surveillance program results."

Section 54.21 of 10 CFR requires a description of time-limited aging analyses (TLAAs) to be included in a license renewal application. On June 14, 2002, the NRC staff received the license renewal application for McGuire, Units 1 and 2, and Catawba, Units 1 and 2. In accordance with 10 CFR 54.21, your application included time-limited aging analyses (including RT<sub>PTS</sub> results) for the period of extended operation to address the effects of reactor vessel neutron embrittlement for the McGuire and Catawba RPVs.

During the August 22, 2002, conference call, your staff noted that an updated evaluation of the McGuire, Unit 1, lower RPV shell axial welds may affect revised RPV pressure-temperature limit curves, which your staff intends to submit to NRC staff for review and approval in the near future. The NRC staff anticipates that the updated evaluation for the McGuire, Unit 1, lower RPV shell axial welds will affect the manner by which you demonstrate compliance with the requirements of 10 CFR 50.61 for the McGuire, Unit 1, RPV. Additionally, the NRC staff indicated to your staff that this new information and the associated, updated evaluation of the McGuire, Unit 1, lower RPV shell axial welds also affects the evaluation of the PTS TLAAs provided to the staff in the license renewal application and associated responses to requests for additional information for McGuire, Unit 1.

So that the NRC staff can effectively complete its review of your license renewal application, the NRC requests that you provide, as a supplement to your license renewal application, a reassessment of the TLAAs provided in Section 4.2 of your license renewal application to demonstrate compliance with the requirements of 10 CFR 50.61 for the McGuire, Unit 1, RPV, during the period of extended operation. The reassessment should take into account the new information from the fourth Diablo Canyon, Unit 2, surveillance capsule. For tracking purposes, an open item designation of 4.2-1 has been established to resolve this issue.

If you have any questions regarding this matter, please call me at 301-415-1868.

Sincerely,

*/RA/*

Rani Franovich, Project Manager  
License Renewal Section  
License Renewal and Environmental Impacts Program  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Docket Nos. 50-369, 50-370, 50-413, and 50-414

cc: See next page

During the August 22, 2002, conference call, your staff noted that an updated evaluation of the McGuire, Unit 1, lower RPV shell axial welds may affect revised RPV pressure-temperature limit curves, which your staff intends to submit to NRC staff for review and approval in the near future. The NRC staff anticipates that the updated evaluation for the McGuire, Unit 1, lower RPV shell axial welds will affect the manner by which you demonstrate compliance with the requirements of 10 CFR 50.61 for the McGuire, Unit 1, RPV. Additionally, the NRC staff indicated to your staff that this new information and the associated, updated evaluation of the McGuire, Unit 1, lower RPV shell axial welds also affects the evaluation of the PTS TLAAs provided to the staff in the license renewal application and associated responses to requests for additional information for McGuire, Unit 1.

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