



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001  
October 8, 2010

Mr. Michael J. Pacilio  
President and Chief Nuclear Officer  
Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: BRAIDWOOD STATION, UNITS 1 AND 2, AND BYRON STATION, UNIT NOS. 1 AND 2 - REQUEST FOR ADDITIONAL INFORMATION RELATED TO REQUEST FOR RELIEF FROM ASME CODE CASE N-729-1 REQUIREMENTS FOR EXAMINATION OF REACTOR VESSEL HEAD PENETRATION WELDS (TAC NOS. ME3510, ME3511, ME3512, AND ME3513)

Dear Mr. Pacilio:

By letter to the Nuclear Regulatory Commission (NRC) dated March 12, 2010 (Agencywide Documents Access and Management System Accession No. ML100710764), Exelon Generation Company, LLC (the licensee) submitted a relief request (RR) for the third 10-year inservice inspection interval at Braidwood Station, Units 1 and 2, and Byron Station, Unit Nos. 1 and 2. The RR proposed an alternative to the requirements in Title 10 of the *Code of Federal Regulations*, paragraph 50.55a(g)(6)(ii)(D) for the inservice inspection of the reactor pressure vessel upper heads in accordance with American Society of Mechanical Engineers Boiler and Pressure Vessel Code Case N-729-1, "Alternative Examination Requirements for PWR Reactor Vessel Upper Heads With Nozzles Having Pressure-Retaining Partial-Penetration Welds," with NRC conditions.

The NRC staff is reviewing your submittal and has determined that additional information is required to complete its review. The specific information requested is addressed in the enclosed Request for Additional Information (RAI). Your staff has agreed to provide a response to the RAI within 60 days after the date of this letter.

M. Pacilio

- 2 -

The NRC staff considers that timely responses to RAIs help ensure sufficient time is available for NRC staff review and contribute toward the NRC's goal of efficient and effective use of its staff resources. If circumstances result in the need to revise the requested response date, please contact me at (301) 415-1547.

Sincerely,

A handwritten signature in black ink, appearing to read "Marshall J. David", with a stylized flourish extending to the right. Above the signature, the word "for" is written in a small, handwritten font.

Marshall J. David, Senior Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. STN-456, STN-457,  
STN 50-454, and STN 50-455

Enclosure:  
Request for Additional Information

cc w/encl: Distribution via ListServ

REQUEST FOR ADDITIONAL INFORMATION

BRAIDWOOD STATION, UNITS 1 AND 2

AND BYRON STATION, UNIT NOS. 1 AND 2

DOCKET NOS. STN 50-456, STN 50-457,

STN 50-454, AND STN 50-455

By letter to the Nuclear Regulatory Commission (NRC) dated March 12, 2010 (Agencywide Documents Access and Management System Accession No. ML100710764), Exelon Generation Company, LLC (the licensee) submitted a relief request for the third 10-year inservice inspection interval at Braidwood Station, Units 1 and 2, and Byron Station, Unit Nos. 1 and 2. The relief request proposed an alternative to the requirements in Title 10 of the *Code of Federal Regulations* (10 CFR), paragraph 50.55a(g)(6)(ii)(D) for the inservice inspection of the reactor pressure vessel upper heads in accordance with American Society of Mechanical Engineers Boiler and Pressure Vessel Code Case N-729-1, "Alternative Examination Requirements for PWR Reactor Vessel Upper Heads With Nozzles Having Pressure-Retaining Partial-Penetration Welds," with NRC staff conditions.

The NRC staff has reviewed and evaluated the information provided by the licensee and has determined that the following information is needed in order to complete its review of the relief request.

1. The NRC staff requests the licensee's basis for not performing a surface examination of the lower portion of each penetration nozzle necessary to meet the inspection requirements of 10 CFR 50.55a(g)(6)(ii)(D). As currently written, the NRC staff finds insufficient basis to grant relief under 10 CFR 50.55a(a)(3)(i), as surface examinations could be performed on each penetration nozzle to meet the current inspection requirements.
2. The NRC staff notes that the time period of the licensee's basis, in Figure 12 and Section 5.1 of the relief request, 6 effective full power years (EFPY), may not bound the possible period of time between inspections, 8 calendar years or 2.25 reinspection years, whichever is less. In Figure 12, the licensee's flaw analysis for penetration nozzle number 68 on Byron Station, Unit No. 1, shows that a flaw would take 6 EFPY to grow from the uninspected region of the nozzle to the toe of the J-groove weld. As well, in Section 5.1 of the relief request, the licensee states, in part, "Figures 7 through 12 below demonstrate that obtaining at least 0.55" below the J-groove weld is sufficient to allow for a minimum of six effective full power years (EFPY) or four 18-month cycles between examinations." The NRC staff notes that under Item No. B4.20 of Table 1 of ASME Code Case N-729-1, the Extent and Frequency of Examinations reads, in part, "All nozzles, every 8 calendar years or before RIY=2.25, whichever is less." Therefore, the NRC staff requests additional information or clarification to support this difference in time between required inspection frequency and the licensee's basis for continued operation with a reduced inspection area.

ENCLOSURE

M. Pacilio

- 2 -

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Sincerely,

***/RA by N. DiFrancesco for M. David/***

Marshall J. David, Senior Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-456 and STN 50-457

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Request for Additional Information

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JCollins, NRR

ADAMS Accession Number: ML102730456

\* Date of RAI Memo

NRR-088

OFFICE	LPL3-2/PM	LPL3-2/LA	DCI/CPNB/BC	LPL3-2/BC	LPL3-2/PM
NAME	MDavid	THarris	TLupold*	RCarlson	NDiFrancesco for MDavid
DATE	10/5/10	10/1/10	9/23/10	10/7/10	10/8/10

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