

July 24, 2008

Mr. Charles G Pardee
Chief Nuclear Officer
and Senior Vice President
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: BRAIDWOOD STATION, UNITS 1 AND 2, AND BYRON STATION, UNITS 1
AND 2 - REQUEST FOR ADDITIONAL INFORMATION RELATED TO GENERIC
LETTER 2004-02 (TAC NOS. MC4667, MC4668, MC4669, AND MC4670)

Dear Mr. Pardee:

By letter to the Nuclear Regulatory Commission (NRC) dated December 31, 2007, Exelon Generation Company, LLC, the licensee for Braidwood Station, Units 1 and 2 (Braidwood), and Byron Station, Units 1 and 2 (Byron), submitted a supplemental response to Generic Letter (GL) 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation during Design Basis Accidents at Pressurized-Water Reactors." The cognizant NRC staff has reviewed the licensee's submittal. The process involved a detailed review by a team of 10 subject matter experts, with focus on the review areas described in the NRC's "Content Guide for Generic Letter 2004-02 Supplemental Responses" (Agencywide Documents Access and Management System Accession No. ML073110389). The review process also included a separate "holistic" review of the licensee's submittal informed by inputs from the subject matter experts that focused on whether the licensee had demonstrated, overall, that its corrective actions for GL 2004-02 are adequate. Based on this review, and noting the very small amount of potential problem debris at Braidwood and Byron following a potential loss-of-coolant accident (LOCA), the NRC staff has no further questions at this time regarding the post-LOCA emergency core cooling system strainer performance at these plants, with the exception of one subject area. Specifically, additional information is needed to verify the structural adequacy of equipment installed to address GL 2004-02. The enclosure to this letter is the request for additional information (RAI).

During a discussion with your staff on July 9, 2008, it was agreed that you would provide a response within 60 days from the date of this letter. We wish to receive only one response letter for the RAI. If you conclude that more than 60 days is needed to respond to some part of the RAI, you should request additional time, including a basis for why such time is needed.

The NRC staff has not yet issued a final safety evaluation on Westinghouse Topical Report WCAP-16793-NP, "Evaluation of Long-Term Cooling Considering Particulate, Fibrous, and Chemical Debris in the Recirculating Fluid." The NRC staff believes that the likelihood of unacceptable in-vessel debris impact for Braidwood and Byron is very low because of the low debris loading. However, because your GL response refers to and relies on this topical report, we plan to defer issuance of a closure letter to Braidwood and Byron for the GL until uncertainties regarding the remaining issues with WCAP-16793 are reduced. You may wait for the issue to be resolved through the WCAP process, or you may demonstrate without reference

C. G. Pardee

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to WCAP-16793 or to the NRC staff's associated safety evaluation that in-vessel downstream effects have been addressed at the plants. The NRC staff is developing a Regulatory Issue Summary to inform the industry of the staff's expectations and plans regarding resolution of this remaining aspect of Generic Safety Issue - 191.

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

Sincerely,

/RA/

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, STN 50-457,
STN 50-454, and STN 50-455

Enclosure:
Request for Additional Information

cc w/encl: See next page

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/RA/

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, STN 50-457,
 STN 50-454, and STN 50-455

Enclosure:
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Byron/Braidwood Stations

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Via e-mail

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REQUEST FOR ADDITIONAL INFORMATION

BYRON STATION, UNIT NOS. 1 AND 2,

AND BRAIDWOOD STATION, UNITS 1 AND 2

DOCKET NOS. STN 50-454, STN 50-455,

STN 50-456, AND STN 50-457

In reviewing the Exelon Generation Company, LLC's (the licensee's) submittal dated December 31, 2007 (Agencywide Documents Access and Management System Accession No. ML080280562), which provided a supplemental response to Generic Letter (GL) 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation during Design-Basis Accidents at Pressurized-Water Reactors," for Braidwood Station, Units 1 and 2 (Braidwood), and Byron Station, Unit Nos. 1 and 2 (Byron), the Nuclear Regulatory Commission (NRC) staff has determined that the following information is needed in order to complete its review:

1. Pursuant to the requirements of Title 10 of the *Code of Federal Regulations*, Section 50.55a, please identify the edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code which was used for strainer qualification.
2. The supplemental GL response states on page 71 of 102, "The design requirements also ensure that it (the strainer) is capable of withstanding the hydrodynamic loads and inertial effects of water at full debris loading without loss of structural integrity." However, in the summary of design assumptions (page 73 of 102), the statement is made, "For the stress analysis no hydrodynamic loads or masses has [sic] been considered." Please clarify these seemingly contradictory statements.
3. The supplemental GL response states on page 71 of 102, "...the trash rack protects the strainer from potential dynamic effects." However, page 72 of 102 states, "...dynamic effects from breaks considered for GSI-191 in the vicinity of the trash rack are not considered in the structural analysis/design of the trash rack." The paragraph continues by stating, "...dynamic effects due to design basis breaks are not considered in the structural analysis of the trash rack." The page 71 statement indicates that the design function of the trash rack is to protect the strainers from dynamic effects, but the statements on page 72 show that the trash rack has not been evaluated for any dynamic effects. Please clarify these seemingly contradictory statements.
4. Please provide a stress ratio summary table similar to Table 3k2-1 for the trash rack analysis.
5. The NRC staff has not endorsed the use of NUREG/CR-2913 for the calculation of jet forces within a 10-diameter distance of potential targets. Please utilize the simplified methods per the current licensing basis to address potential jet forces on the trash rack structure and provide a summary of the results to the NRC staff.

Enclosure