



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

June 13, 2012

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

SUBJECT: BYRON STATION, UNIT NOS. 1 AND 2, AND BRAIDWOOD STATION, UNITS 1 AND 2 - REQUEST FOR ADDITIONAL INFORMATION RELATED TO MEASUREMENT UNCERTAINTY RECAPTURE UPRATE (TAC NOS. ME6587, ME6588, ME6589, AND ME6590)

Dear Mr. Pacilio:

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated June 23, 2011, Exelon Generation Company, LLC submitted a request to revise the maximum power level specified in each unit's operating license and the technical specification definition of rated thermal power (RTP). Specifically, the proposed change requests an increase from the current licensed thermal power of 3586.6 megawatts thermal (MWt) to 3645 MWt; an increase of approximately 1.63 percent RTP, for the Braidwood Station, Units 1 and 2, and Byron Station, Unit Nos. 1 and 2.

The NRC staff is reviewing your submittal and has determined that additional information is required to complete the review. The specific information requested is addressed in the enclosure. During a phone conference on June 5, 2012, your staff agreed to provide the information by June 30, 2012.

The NRC staff considers that timely responses to requests for additional information help ensure sufficient time is available for 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) 415-6606.

Sincerely,

A handwritten signature in black ink that reads "Joel S. Wiebe".

Joel S. Wiebe, 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: Distribution via Listserv

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's (Exelon's) submittal dated June 23, 2011, related to measurement uncertainty recapture (MUR) uprate, for the Braidwood Station (Braidwood), Units 1 and 2 and Byron Station (Byron), Unit Nos. 1 and 2, the NRC staff has determined that additional information is needed in order to complete its review.

Exelon's letter, dated May 16, 2012, in response to the NRC's letter dated May 10, 2012, references the NRC safety evaluation (SE) for stretch power uprate, dated May 4, 2001. In this NRC SE for stretch power uprate, it is stated that the licensee performed an analysis of the spent fuel pool (SFP) structure that confirmed the maximum rebar stress of 53.7 ksi for the maximum bulk pool temperature of 162.7 °F to be within the allowable limit of 54 ksi.

Exelon's letter, dated May 16, 2012, states that a detailed evaluation of the SFP structure for a bounding temperature of 167 °F resulted in a maximum rebar stress of 30.3 ksi.

During a May 23, 2012, conference call to clarify why the rebar stress is now significantly less than that provided in 2001, Exelon provided information not included in previous submittals to explain the reason for the reduction in stress.

- (1) Submit the explanation for the significant reduction in rebar stress from 53.7 ksi to 30.3 ksi. The response, as a minimum, should include the description of the methodology and parameters used in the MUR evaluation that are different from those used in the evaluation performed for the stretch power uprate and an explanation how these differences affect the rebar stress calculation;
- (2) Confirm that the detailed evaluation for the MUR condition is consistent with the plant licensing basis, including Section 3.8.4 of the Byron and Braidwood updated final safety analysis report.

Enclosure

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President and Chief Nuclear Officer  
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Dear Mr. Pacilio:

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated June 23, 2011, Exelon Generation Company, LLC submitted a request to revise the maximum power level specified in each unit's operating license and the technical specification definition of rated thermal power (RTP). Specifically, the proposed change requests an increase from the current licensed thermal power of 3586.6 megawatts thermal (MWt) to 3645 MWt; an increase of approximately 1.63 percent RTP, for the Braidwood Station, Units 1 and 2, and Byron Station, Unit Nos. 1 and 2.

The NRC staff is reviewing your submittal and has determined that additional information is required to complete the review. The specific information requested is addressed in the enclosure. The information is required to be submitted within 30 days of receipt of this letter.

The NRC staff considers that timely responses to requests for additional information help ensure sufficient time is available for 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) 415-6606.

Sincerely,

/ RA /

Joel S. Wiebe, Senior Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

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