

August 17, 2007

Mr. Christopher M. Crane  
President and Chief Nuclear Officer  
Exelon Generation Company, LLC  
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 LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL  
SPECIFICATION REQUIREMENTS FOR SELECT REACTOR TRIP SYSTEM,  
ENGINEERED SAFETY FEATURE ACTUATION SYSTEM, AND  
CONTAINMENT VENTILATION ISOLATION, INSTRUMENTATION (TAC NOS.  
MD4009, MD4010, MD4011, AND MD4012)

Dear Mr. Crane:

By letter to the Nuclear Regulatory Commission (NRC) dated January 8, 2007, Exelon Generation Company, LLC submitted a request to extend the completion times, bypass test times, and surveillance test intervals for reactor protection system (RPS) and engineered safety features actuation system instrumentation, for the Byron Station, Unit Nos. 1 and 2, and Braidwood Station, Units 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 to this letter. During a discussion with your staff on August 9, 2007, it was agreed that you would provide a response within 30 days from the date 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) 415-3733.

Sincerely,

**/RA/**

Robert F. Kuntz, Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

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

Enclosure:  
Request for Additional Information

cc w/encl: See next page

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Robert F. Kuntz, Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
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Enclosure:  
Request for Additional Information

cc w/encl: See next page

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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's (Exelon's) submittal dated January 8, 2007, related to extending the completion times (CT), bypass test times, and surveillance test intervals (STIs) for reactor protection system and engineered safety features actuation system (ESFAS) instrumentation, for the Byron Station, Unit Nos. 1 and 2 (Byron) and Braidwood Station, Units 1 and 2 (Braidwood), the NRC staff has determined that the following information is needed in order to complete its review:

1. The analysis for WCAP-14333/WCAP-15376 assumed that maintenance on master and slave relays, logic cabinets, and analog channels while at power occurs only after a component failure, and that preventive maintenance does not occur. The topical report does not preclude the practice of at-power preventive maintenance but limits the total time a component is unavailable due to corrective or preventive maintenance to the values used in the analysis. If preventive maintenance is to be performed at Byron/Braidwood, confirm that the unavailability for components evaluated in WCAP-14333 are consistent with the plant specific estimates at Byron/Braidwood and do not exceed those assumed in the analysis.

See the submittal, Attachment 6, Page 1, "Implementation Guidelines," Table 1, "Analog Channel Calibration" as an example.

2. Provide an assessment of external events risk impact including, seismic, fire, and external floods/high wind with respect to the proposed CT and STI extensions, per Regulatory Guide (RG) 1.174 Section 2.2.4, "Acceptance Guidelines" and RG 1.177 Section 2.3.2, "Scope of the Probabilistic Risk Assessment (PRA) for technical specification (TS) Applications." Include any seismic vulnerabilities associated with instrumentation/logic systems or components and risk impacts on fire screening criteria and quantification of fire sequences in unscreened areas. In addition, confirm that the combined total Core Damage Frequency (CDF) from external and internal events remains less than the RG 1.174 base CDF of 1E-4 per year.
3. Provide a discussion on the following aspects of PRA quality for Byron/Braidwood.
  - Provide the date of Byron/Braidwood's PRA industry peer review and the date of certification. Provide the results of the Peer review including disposition of "A" and "B" facts and observations.

Enclosure

- The plant-specific PRA reflects the as-built, as-operated plant.
  - Applicable PRA updates conducted since completion of individual plant examination (IPE) and individual plant examination of external events (IPEEE) and the status of any improvements identified by the IPE and IPEEE.
  - Reference PRA quality assurance programs/procedures, including expected PRA revision schedules.
  - PRA adequacy and completeness with respect to evaluating the proposed CT, bypass test time under Tier 3 configuration risk management.
  - Plant design or operational modifications not reflected in the WCAP-14333/WCAP15376 PRA used in this application that are related to or could impact this application. Justify the acceptability of not including these modifications in the PRA, as part of this application.
4. Consistent with RG 1.174, the cumulative risk of the present TS change in light of past applications (or additional applications planned or under review) should be understood. Cumulative risks were addressed for Byron/Braidwood with respect to the implementation of WCAP-10271, WCAP-14333, and WCAP-15376 only. Provide an evaluation of cumulative risk impact of previous and additional TS applications under development or review per RG 1.174, Section 3.3.2, as applicable to the implementation of WCAP-14333 and WCAP-15376.
5. Does the configuration risk management program at Byron/Braidwood provide modeling of the reactor trip and ESFAS systems and components addressed by WCAP-15376 and WCAP-14333 when performing Tier 3 evaluations? Discuss how signals or components not specifically modeled will be addressed.
6. Discuss the omission of reactor coolant system pressure relief systems from the regulatory commitments listed in Attachment 5, Page 1 of the submittal, see WCAP-15376 (Tier 2).