

September 10, 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 INTEGRATED LEAK RATE TEST (TAC NOS. MD5149, MD5150,
MD5151, AND MD5152)

Dear Mr. Crane:

By letter to the Nuclear Regulatory Commission (NRC) dated April 4, 2007, Exelon Generation Company, LLC submitted a request to revise Technical Specification 5.5.16 "Containment Leakage Rate Testing Program," to reflect a one-time five-year deferral of the containment Type A, integrated leak rate test, 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 31, 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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STN 50-456 and STN 50-457

Enclosure:
Request for Additional Information

cc w/encl: See next page

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Byron/Braidwood Stations

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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 April 4, 2007, related to Technical Specification 5.5.16 "Containment Leakage Rate Testing Program," to reflect a one-time five-year deferral of the containment Type A, integrated leak rate test, 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:

Since the integrated leak rate test (ILRT), the local leak rate test (LLRT), and containment inservice inspection (CISI) program collectively ensure leak-tight integrity and structural integrity of the containment, the NRC staff has determined that the following information is needed to complete the review of the license amendment request (LAR).

1. With reference to Section 4.1.2 of Attachment 1 of the April 4, 2007, submittal, what are the current test intervals for the Type B and Type C LLRTs? Please provide a schedule for the Type B and Type C tests on containment pressure-retaining boundaries that are or will be scheduled to be performed prior to and during the requested 5-year extension period of the ILRT interval.
2. The last sentence in Section 4.1.3.1 of Attachment 1 of the April 4, 2007, submittal states that the Appendix J visual inspection frequency, in accordance with Regulatory Guide (RG) 1.163 requirements, will not be changed as a result of the proposed change. Regulatory Position C.3 of RG 1.163 requires that visual examinations should be conducted prior to initiating a Type A test, and during two other refueling outages before the next Type A test based on a 10-year ILRT interval. Please describe, with a schedule, how you would supplement this 10-year interval-based visual inspections requirement for the requested 15-year ILRT interval to ensure a continuing means of early uncovering of evidence of containment structural deterioration.
3. In the first paragraph of Section 4.1.3.1 of Attachment 1 of the April 4, 2007, submittal, it is stated that additional visual inspections are conducted in accordance with the requirements of American Society of Mechanical Engineers Boilers and Pressure Vessel Code (ASME Code), Section XI, Subsections IWE and IWL. Please provide the schedule of these visual inspections relative to the Appendix J visual inspections discussed earlier in the referenced paragraph of the LAR and also in the request for additional information question 2 above. Please indicate, with a schedule, the Section IWE/IWL general visual inspections of the pressure-retaining structures, systems and components (SSCs) of the containment system that are or will be scheduled to be performed prior to and during the requested 5-year extension period.

Enclosure

4. In Section 4.1.3.2 of Attachment 1 of the April 4, 2007 submittal, it is stated that the CISI at Braidwood and Byron were developed in accordance with the 1992 Edition with 1992 Addenda of ASME Code, Section XI Subsections IWE and IWL, as modified by NRC rulemaking in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Section 50.55a, 10CFR50.55a. When does the current inspection interval of the ASME Code, Section XI CISI program end? Please provide information, with time-period, regarding the edition of the ASME Code that will be used for the CISI program interval that includes the requested 5-year extension period ?
5. Section 4.1.3.2 of Attachment 1 of the April 4, 2007, submittal includes a brief generic description of IWE/IWL CISI program at Braidwood and Byron. Please provide a description and schedule of the CISI methods used and historic highlights of examinations/tests performed on the containment pressure-retaining SSCs, significant findings and actions taken that demonstrate effective implementation of the CISI programs at Byron and Braidwood to ensure that containment structural and leak-tight integrity will be maintained. Please include relevant highlights of examinations performed on the containment penetrations (with seals, gaskets, and bolted connections), the metallic liner, moisture barrier, the reinforced concrete containment structure and its post-tensioning system. Also, discuss with schedule the IWE/IWL CISI program examinations of these containment pressure-retaining SSCs that are or will be scheduled to be performed prior to and during the requested 5-year extension period of the ILRT interval. Also, indicate the dates when the most recent IWE and IWL examinations were completed for each of the units at Byron and Braidwood.
6. Are bellows used on penetrations through containment pressure-retaining boundaries at Braidwood and Byron? If so, please provide information on their location, inspection, testing and operating experience with regard to detection of leakage through penetration bellows.
7. Please provide information of instances, if any, during implementation of the IWE/IWL CISI program, for each of the units at Byron and Braidwood, where existence of or potential for degradation conditions in inaccessible areas of the containment structure and metallic liner were identified and evaluated based on conditions found in accessible areas as required by 10 CFR 50.55a(b)(2)(viii)(E) and 10 CFR 50.55a(b)(2)(ix)(A). If there were any instances of such conditions, please discuss the findings and actions taken.
8. In the fifth paragraph of Section 4.1.3.2 in Attachment 1 of the LAR, it is stated that "As part of the ASME IWL-2521 inspections and tests of post-tensioned tendon systems" A similar reference to ASME IWL-2521 examinations and tests of post-tensioned tendons is made in the sixth paragraph. Staff notes that IWL-2521 relates to only tendon selection and does not include the requirements for inspections, examinations and tests. The requirements for examination of unbonded post-tensioning systems is covered by IWL-2520 in its entirety (IWL-2521 thru IWL 2526) and not just IWL-2521, and therefore the reference to IWL-2521 in this context is not sufficient. Please clarify this reference to the IWL section in the April 4, 2007, submittal with regard to your tendon surveillance program. Also, with regard to the regression analyses of the tendon prestressing forces, please confirm if the analyses were based on individual tendon lift-off forces measured during tendon surveillances and indicate the number of

surveillances from which data was used. Also explain the reason why annual grease can inspections in areas susceptible to moisture intrusion is being performed only at Braidwood and not at Byron. Please confirm if accessible grease caps are visually examined as part of the CISI programs at both Braidwood and Byron Stations as required by 10 CFR 50.55a(b)(2)(viii)(A).

9. Section 4.1.3.4 of Attachment 1 of the April 4, 2007, submittal states that the Maintenance Rule Baseline Inspections included the internal containment structures. Please explain the relevance of these inspections to the 10 CFR 50 Appendix J Option B Leakage Testing Program. Please identify the pressure-retaining SSCs of the containment system at Braidwood and Byron that come under the purview of the Appendix J Containment Leakage Testing Program and were included in these inspections.