



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

August 22, 2011

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 – SUPPLEMENTAL INFORMATION NEEDED FOR ACCEPTANCE OF LICENSING ACTION REGARDING MEASUREMENT UNCERTAINTY RECAPTURE POWER UPRATE (TAC NOS. ME6587, ME6588, ME6589, AND ME6590)

Dear Mr. Pacilio:

By letter dated June 23, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML111790026), Exelon Generation Company, LLC (EGC, the licensee) submitted a license amendment request for Braidwood Station, Units 1 and 2, and Byron Station, Unit Nos. 1 and 2. The proposed amendment would revise the maximum power level specified in each unit's operating license and the technical specifications (TSs) definition of rated thermal power. The purpose of this letter is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of this amendment request. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an amendment to the license (including the TSs) must fully describe the changes requested, and following as far as applicable, the form prescribed for original applications. Section 50.34 of 10 CFR addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

The NRC staff has reviewed your application and concluded that the information delineated in the enclosure to this letter is necessary to enable the NRC staff to make an independent assessment regarding the acceptability of the proposed amendment in terms of regulatory requirements and the protection of public health and safety and the environment.

In order to make the application complete, the NRC staff requests that EGC supplement the application to address the information requested in the enclosure by August 30, 2011. This will enable the NRC staff to begin its detailed technical review. If the information responsive to the NRC staff's request is not received by the above date, the application may not be accepted for

M. Pacilio

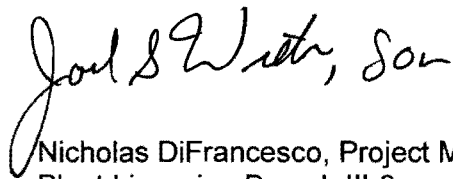
- 2 -

review pursuant to 10 CFR 2.101, and the NRC will cease its review activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the NRC staff's detailed technical review by separate correspondence.

The information requested and associated time frame in this letter was discussed with Joe Bauer and members of your staff on August 11, 2011 and updated on August 18, 2011.

If you have any questions, please contact me at (301) 415-1115 or Nicholas.DiFrancesco@nrc.gov.

Sincerely,

A handwritten signature in black ink that reads "Joe DiFrancesco, Son". The signature is written in a cursive, flowing style.

Nicholas DiFrancesco, 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:
Supplemental Information Request

cc w/encl: Distribution via Listserv

SUPPLEMENTAL INFORMATION REQUEST
LICENSE AMENDMENT REQUEST (LAR) REGARDING
MEASUREMENT UNCERTAINTY RECAPTURE (MUR) POWER UPRATE
BRAIDWOOD STATION, UNITS 1 AND 2
DOCKET NOS. STN 50-456 AND STN 50-457
BYRON STATION, UNIT NOS. 1 AND 2.
DOCKET NOS. STN 50-454 AND STN 50-455

1. Attachment 5 of the EGC submittal, Page III-152, Section III.17.2.1: Main Steam Line Break Dose Evaluation, states:

“The atmospheric dispersion factors (X/Q) values have been updated and incorporated into the dose analysis as per the current commitment to the NRC.”

- Provide a list of the updated atmospheric dispersion factors (X/Q values) for the Main Steam Line Break (MSLB) or provide a reference if they are included in a previously docketed submittal.
- Identify the limiting X/Q values selected from the list that were used in the updated dose analysis that resulted in the limiting doses for the MSLB.

The commitment to the NRC states that X/Q values are to be updated for finer wind speed categories.

- Provide any updated data files, descriptions of updated assumptions, and all inputs used to calculate the updated X/Q values for the MSLB.
- For large data files, provide the data in electronic format suitable for use with computer codes.
- For data files, assumptions, and inputs that are unchanged, cite references to the docketed items.

2. Attachment 5a of the EGC submittal, Page IV-8, Table IV-1a: Summary of Comparison of AST Parameters Used in Steam Generator Tube Rupture Dose Analysis, states:

“All offsite X/Q values were updated for finer wind speed categories per RG 1.23 Revision 1. This was also a commitment per RS-06-01.”

Enclosure

With regard to the updated atmospheric dispersion factors (X/Q values) for the steam generator tube rupture:

- Provide any updated data files, descriptions of updated assumptions, and all inputs used to calculate the updated X/Q values.
 - For large data files, provide the data in electronic format suitable for use with computer codes.
 - For data files, assumptions, and inputs that are unchanged, cite references to the docketed items.
3. The NRC staff has become aware through the inspection program of a current nonconformance from the current licensing and design basis for the high-energy line break analysis provided in part for review of the MUR power uprate license amendment request. In general, a licensee's corrective action program addresses deviations and nonconformances with most elements of the licensing bases. NRC staff involvement in most of these situations is through the inspection, assessment, and enforcement programs. Provided the licensee is able to correct the problem and restore compliance, nonconformance from the licensing bases are not addressed by a licensing-related process. However, in order to have confidence that the related licensing and design basis information provided in your amendment request will not change and lengthen the review process, the NRC staff requires additional information.
- Discuss your plans for resolving the nonconformance. In particular, address the impact of resolution on the accuracy of the information provided to the NRC staff in your submittal.
4. The EGC submittal, Section V.1.D, Grid Stability, for Byron Station, states the following:
- "Power flow simulations were performed using 2012 transmission grid models for four system load conditions. The assessment concluded that with one exception, the lowest post-contingency voltage for Byron Station is 349.1 kV, which remains above the minimum required switchyard voltage of 339.8 kV. The scenario that analyzes a unit trip with the other unit in shutdown condition and with a system load level equal to 75% of the 50/50 load forecast results in a post-contingency voltage of 331.9 kV, which is lower than the minimum required voltage of 339.8 kV. This low post contingency voltage for this scenario is an existing (pre MUR) condition and is not related to the MUR Power Uprate. PJM [Pennsylvania-New Jersey-Maryland Interconnection] real-time state estimator continuously monitors and predict grid voltages under various contingencies (e.g., unit trips). If the state estimator predicts an inadequate voltage at Byron's switchyard, the station is notified and abnormal procedure is entered."
- According to 10 CFR Appendix A, general design criteria (GDC) 17, both offsite and onsite power shall have sufficient capacity and capability. Confirm how GDC 17 requirements are met in the above-discussed contingency.

- Justify the acceptability of using the methodology of a Transmission Operator (PJM state estimator) notifying the licensee of any inadequate voltage prediction and then entering the abnormal procedure. The offsite power must be capable to cope with any simultaneous (N-1 grid) contingency and postulated design basis accident. Discuss your plans for resolving the above issue for pre and post MUR conditions.

M. Pacilio

- 2 -

review pursuant to 10 CFR 2.101, and the NRC will cease its review activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the NRC staff's detailed technical review by separate correspondence.

The information requested and associated time frame in this letter was discussed with Joe Bauer and members of your staff on August 11, 2011 and updated on August 18, 2011.

If you have any questions, please contact me at (301) 415-1115 or Nicholas.DiFrancesco@nrc.gov.

Sincerely,

/RA/ by JWiebe for

Nicholas DiFrancesco, 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:
Supplemental Information Request

cc w/encl: Distribution via Listserv

DISTRIBUTION:

PUBLIC LPL3-2 R/F

RidsAcrsAcnw_MailCTR Resource

RidsNrrDraAadb Resource Resource

RidsNrrDorl Resource

RidsNrrDorlDpr Resource

RidsNrrDorlLp3-2 Resource

RidsNrrLASRohrerResource

RidsNrrPMBraidwood Resource

RidsNrrPMBByron Resource

RidsOgcRp Resource

RidsRgn3MailCenter Resource

RidsNrrDeEeeb Resource

RidsNrrDeEcmb Resource

ADAMS Accession No. ML112150563

NRR-106

OFFICE	DORL/LPL3-2/PM	DORL/LPL3-2/LA	DRA/AADB/BC	(A) DE/EEEB	DE/ECMB	DORL/LPL3-2/BC
NAME	NDiFrancesco(JWiebe for)	SRohrer(RSola for)	TTate(JDozier for)	RMathews	MKhanna(FFarzam for)	JZimmerman
DATE	8/19/11	8/19/11	8/ 19/11	8/19/11	8/ 19/11	8/22/11

OFFICIAL RECORD COPY