



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

April 19, 2010

Mr. Charles Pardee
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: LIMERICK GENERATING STATION, UNITS 1 AND 2 - SUPPLEMENTAL
INFORMATION NEEDED FOR ACCEPTANCE OF REQUESTED LICENSING
ACTION RE: REQUEST FOR LICENSE AMENDMENT REGARDING
MEASUREMENT UNCERTAINTY RECAPTURE POWER UPRATE (TAC NOS.
ME3589, ME3590, ME3591, AND ME3592)

Dear Mr. Pardee:

By letter dated March 25, 2010, (Agencywide Documents Access and Management System (ADAMS) Accession Number ML100850380), Exelon Generation Company, LLC (Exelon) submitted a license amendment request for Limerick Generating Station (LGS), Units 1 and 2, that requests an amendment to the facility operating licenses and Technical Specifications (TSs) to implement an increase of approximately 1.65% in rated thermal power. In addition to the increase in rated thermal power, the application requests approval for a modification to the standby liquid control system (SLCS). The purpose of this letter is to provide the status of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of this amendment request. The acceptance review is being 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 is reviewing your application and has concluded that the information delineated in the enclosure to this letter is necessary to enable the 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. Please note that the acceptance review of your application is ongoing and therefore, the information requested in this letter is not necessarily all that will be required for acceptance. Should any further information be required for completion of the acceptance review, you will be advised by separate correspondence.

In order to make the application complete, the NRC staff requests that Exelon supplement the application to address the information requested in the enclosure by May 6, 2010. This will

C. Pardee

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be necessary for 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 will not be accepted for 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 staff's detailed technical review by separate correspondence.

The information and response time requested in this letter were discussed with Mr. Kevin Borton of your staff on April 19, 2010.

Please contact me at 301-415-2833, if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Peter Bamford". The signature is written in a cursive style with a large, looping initial "P".

Peter Bamford, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-352 and 50-353

Enclosure: As stated

cc: Distribution via Listserv



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SUPPLEMENTAL INFORMATION NEEDED

PROPOSED LICENSE AMENDMENT REQUEST REGARDING MEASUREMENT

UNCERTAINTY RECAPTURE POWER UPRATE REQUEST

LIMERICK GENERATING STATION, UNITS 1 AND 2

DOCKET NOS. 50-352 AND 50-353

By letter dated March 25, 2010, Exelon Generation Company, LLC submitted a license amendment request (LAR) regarding a measurement uncertainty recapture (MUR) power uprate for Limerick Generating Station (LGS), Units 1 and 2 (Agencywide Documents Access and Management System, Accession No. ML100850380). The MUR uprate request includes a proposed modification to the standby liquid control system (SLCS) that is required for the implementation of the requested uprate. The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing the LAR and has concluded that the information delineated below is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed license amendment in terms of regulatory requirements and the protection of public health and safety and the environment.

1. The NRC staff is assessing two-pump SLCS operation for conformance to Title 10 of the *Code of Federal Regulations* (10 CFR), paragraph 50.62(c)(4), which requires a system capable of injecting the equivalent of 86-gallons per minute of 13 weight-percent sodium pentaborate decahydrate solution at the natural boron-10 isotope abundance into a 251-inch inside diameter reactor pressure vessel for a given core design. To establish this equivalency, the reactor vessel inside diameter is required. Please provide the reactor vessel inside diameter for LGS, Units 1 and 2.
2. Criterion 4 of 10 CFR 50.36(c)(2)(ii) requires the establishment of a Limiting Condition for Operation (LCO) for structures, systems or components which operating experience or probabilistic risk assessment has shown to be significant to public health and safety. This requirement applies to the SLCS, as reflected in the current LGS Unit 1 and 2 Technical Specifications. Because the proposed changes result in an LCO that allows any two pumps to remain operable to meet the LCO, the same degree of assurance should be provided that each pump can meet the specified requirements. Verify that system surveillance, testing, inspection, and maintenance requirements for the 'C' SLCS pump will remain the same as those for the 'A' and 'B' pumps, thereby providing the same degree of assurance exists regarding the operability of the 'C' pump, should it need to be placed in service.

Enclosure

3. The Anticipated Transient Without Scram (ATWS) definition in 10 CFR 50.62(b) describes an anticipated operational occurrence followed by a failure of the reactor trip system, for which systems must be in place to mitigate. In this case, the SLCS is demonstrated to perform its reactivity control function under the conditions of a postulated main steamline isolation valve closure. Although injection against the predicted peak pressure is not necessary, the system must perform its function when required. Please provide additional details regarding the selection of the required injection pressure:
 - a. Confirm that the selected pressure corresponds to the pressure predicted at an appropriate time after receipt of an injection signal to account for the system automatic initiation delay.
 - b. Under conditions indicative of the limiting ATWS pressurization event, what is the average operator time to initiate the SLCS manually?
 - c. How many pumps would the operator be instructed to start under ATWS conditions?
 - d. What is the pressurization effect of an operator initiating a single pump, followed by an automatic initiation?
 - e. Is the possibility described in Item d, above, included in the evaluation of SLCS injection pressures presented in the LAR? If not, why not?

be necessary for 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 will not be accepted for 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 staff's detailed technical review by separate correspondence.

The information and response time requested in this letter were discussed with Mr. Kevin Borton of your staff on April 19, 2010.

Please contact me at 301-415-2833, if you have any questions.

Sincerely,

/ra/

Peter Bamford, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-352 and 50-353

Enclosure: As stated

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|---------------|-------------------|-------------------|-------------------|------------------|
| OFFICE | LPLI-2/PM | LPLI-2/LA | SRXB/BC | LPLI-2/BC |
| NAME | PBamford | ABaxter | GCranston* | HChernoff |
| DATE | 04/19/2010 | 04/19/2010 | 04/09/2010 | 4/19/10 |

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