



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

April 15, 2010

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

SUBJECT: LASALLE COUNTY STATION, UNITS 1 AND 2 - REQUEST FOR ADDITIONAL INFORMATION RELATED TO REQUEST FOR LICENSE AMENDMENT REGARDING MEASUREMENT UNCERTAINTY RECAPTURE POWER UPRATE (TAC NOS. ME3288 AND ME3289)

Dear Mr. Pardee:

By letter to the Nuclear Regulatory Commission (NRC) dated January 27, 2010 (Agencywide Documents Access and Management System Package No. ML100321303), Exelon Generation Company, LLC submitted a request to revise the Operating License and Technical Specifications to implement an increase of approximately 1.65 percent in rated thermal power from the current licensed thermal power of 3489 megawatts thermal (MWt) to 3546 MWt, for the LaSalle County 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 April 14, 2010, it was agreed that you would provide a response 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) 415-3719.

Sincerely,

A handwritten signature in cursive script, appearing to read "C. Goodwin".

Cameron S. Goodwin, Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-373 and 50-374

Enclosure:
Request for Additional Information

cc w/encl: Distribution via listserv

REQUEST FOR ADDITIONAL INFORMATION

LASALLE COUNTY STATION, UNITS 1 AND 2

DOCKET NOS. 50-373 AND 50-374

In reviewing the Exelon Generation Company's (Exelon's) submittal dated January 27, 2010 (Agencywide Documents Access and Management System Package No. ML100321303), related to the measurement uncertainty recapture (MUR) license amendment request, for the LaSalle County Station (LSCS), Units 1 and 2, the Nuclear Regulatory Commission (NRC) staff has determined that the following information is needed in order to complete its review:

Fire Protection Branch:

RAI 1

The NRC staff notes that Enclosure 6 to the General Electric Hitachi (GEH) Nuclear Energy Safety Analysis report for LSCS, Units 1 and 2 Thermal Power Optimization, NEDO-33485P, Section 6.7, "Fire Protection," states that "...*There is no change in the physical plant configuration and the potential for minor changes to combustible loading as result of TPO uprate...*" The NRC staff requests that the licensee summarize any changes to the combustible loading, however minor, and discuss the impact of these changes on the plant's compliance with the fire protection program licensing basis, 10 CFR 50.48, or applicable portions of 10 CFR Part 50, Appendix R.

RAI 2

Some plants credit aspects of their fire protection system for other than fire protection activities, e.g., utilizing the fire water pumps and water supply as backup cooling or inventory for non-primary reactor systems. If LSCS, credits its fire protection system in this way, please identify the specific situations and discuss to what extent, if any, the MUR power uprate affects these "non-fire-protection" aspects of the plant fire protection system. Please verify if LSCS does not take such credit.

Reactor Systems Branch

RAI 1

Describe the effects the flow straightener has on the flow profile observed by the unified fracture mechanics.

RAI 2

What does the effect of a 2.5 R/hr radiation field at full power have on the expected lifetime of transducers?

Mechanical and Civil Engineering Branch

RAI 1

Section 3.4 of Attachment 8 of the licensee's submittal summarizes the review performed to determine whether the LSCS, Units 1 and 2, reactor vessel internals and safety-related main steam (MS) and feedwater (FW) piping would be able to withstand the effects of increased flow-induced vibration (FIV), due to the higher flow conditions present at the proposed Thermal Power Optimization (TPO or measurement uncertainty recapture (MUR)) power uprate conditions. With regards to the possible effects of increased FIV at the TPO conditions, tabulated under Section 3.4 of Attachment 8, please address the following:

- (a) On page 3-19 of Attachment 8, it is stated that the expected TPO uprate vibrations were compared against the GEH acceptance criteria. Please confirm that the GEH acceptance criteria are those "...established vibration acceptance limits" cited on page 3-18 of Attachment 8. Additionally, please provide the references which provide the regulatory acceptance bases of the acceptance criterion.
- (b) On page 3-19 of Attachment 8, it is stated that the MS and FW piping vibration levels will remain within acceptable limits at TPO conditions, due to acceptable performance during FIV testing during initial plant startup, and acceptable operating experience at current licensed thermal power (CLTP). In concert with the response to RAI 1(a) above, please expand on the MS and FW piping FIV acceptance criterion cited here within and provide the references which provide the regulatory acceptance bases of the acceptance criterion.
- (c) Please provide justification for citing the acceptance of vibration levels at the requested TPO levels based on the operating experience at CLTP, when it is stated that piping vibrations are expected to be roughly 4 percent higher than the current vibration levels. If this justification includes extrapolations, baseline vibration data, or other analytical methods, please provide the references which provide the regulatory acceptance bases of the referenced methodologies.

Instrumentation and Controls Branch

RAI 1

RIS 2002-03, Attachment I, Section I, Item F asks that licensees provide information related to calibration and maintenance procedures that affect the power calorimetric calculation. Please provide information related to how LSCS will control the hardware and software configuration of the Cameron linear elastic fracture mechanics (LEFM) CheckPlus equipment.

RAI 2

A 72-hour Allowable Outage Time (AOT) has been requested for the LSCS units to remain above the Current Licensed Thermal Power (i.e., 3,489 MWt) up to the requested uprated power (i.e., 3,546 MWt) in the event that the Cameron LEFM CheckPlus is declared non-operational. In support of this request, please provide information on the following:

(a) Please provide a description of what level of Cameron LEFM CheckPlus degradation or system alert would render the Cameron LEFM CheckPlus to be declared non-operational at LSCS.

(b) The license amendment request stated that the feedwater flow nozzle measurements would be used in lieu of the non-operational Cameron LEFM CheckPlus to remain above the Current Licensed Thermal Power during the AOT. Are the feedwater flow nozzles routinely calibrated to the Cameron LEFM CheckPlus measurement? If so, how often is the calibration performed? If not, what measures are taken at LSCS to ensure that the feedwater flow nozzle measurements are sufficiently accurate during the AOT to justify operation at the uprated power level?

(c) If the power level is below the Current Licensed Thermal Power at the time the Cameron LEFM CheckPlus is declared non-operational or if the power level drops below the Current Licensed Thermal Power during the AOT, will power be raised above the Current Licensed Thermal Power prior to the Cameron LEFM CheckPlus becoming operational? If so, please provide justification.

(d) Has there been any recent evidence of feedwater nozzle fouling at either LSCS unit?

(e) Are there any plant-specific feedwater flow nozzle measurement drift data for the LSCS units? If so, is this data consistent with the measurement drift errors cited from the ER-80P Topical Report?

RAI 3

Section 3.4.4 of Attachment 1 of the License Amendment Request notes that the setpoint methodology is described in NES-EIC-20.04, Revision 5. It was noted that the NRC had previously reviewed and approved the setpoint methodology in the document. However, the NRC approval contained in ML011130202 was based upon Revision 3 of the document. Please provide a summary of the changes from Revision 3 to Revision 5 of NES-EIC-20.04.

Accident Dose Branch

RAI 1

Please clarify which analyses of record were assessed to make the determination that post-accident dose consequences, following acceptance of a 1.65 percent MUR (TPO) power uprate, would be bounded by those dose consequence that are currently calculated. Also, please describe the methodology used in those analyses.

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Sincerely,

/RA/

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NRR-088

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