

August 16, 2001

Mr. Oliver D. Kingsley, President
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Exelon Generation Company, LLC
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SUBJECT: LASALLE COUNTY STATION, UNITS 1 AND 2 - SAFETY EVALUATION OF
RELIEF REQUEST FOR PRIMARY CONTAINMENT INSERVICE INSPECTION
PROGRAM (TAC NOS. MB1789 AND MB1790)

Dear Mr. Kingsley:

By letter dated April 16, 2001, you submitted, along with a proposed Technical Specification (TS) change, a request for relief from the primary containment inservice inspection (ISI) requirements for LaSalle County Station, Units 1 and 2, for the first ten-year inspection interval. The relief request, CR-32, proposes an alternative to the requirements of the ASME Code, Section XI, Subsection IWL that is incorporated by reference in 10 CFR 50.55a. The Code of Record for LaSalle County Station, Units 1 and 2, is the 1998 Edition of the ASME Code, Section XI as authorized by the staff in a letter dated September 18, 2000.

The Nuclear Regulatory Commission (NRC) staff has evaluated CR-32, and finds that the use of the alternative may be authorized pursuant to 10 CFR 50.55a(a)(3)(i) on the basis that it provides an acceptable level of quality and safety for the LaSalle County Station, Units 1 and 2, for the first ten-year IWL interval of the primary containment ISI program. Our safety evaluation is enclosed. The TS change will be addressed by separate correspondence.

Sincerely,

/RA/

Anthony J. Mendiola, Chief, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-373 and 50-374

Enclosure: As stated

cc w/encl.: See next page

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LaSalle County Station
Units 1 and 2

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LaSalle County Station
Units 1 and 2

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Anthony J. Mendiola, Chief, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-373 and 50-374

Enclosure: As stated

cc w/encl.: See next page

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ACCESSION NO.: ML012050221

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE PRESTRESSED CONCRETE CONTAINMENT

TENDON SURVEILLANCE PROGRAM

RELIEF REQUEST CR-32

LASALLE COUNTY STATION, UNITS 1 AND 2

EXELON GENERATION COMPANY, LLC

DOCKET NOS. 50-373 AND 50-374

1.0 INTRODUCTION

By letter dated April 16, 2001, Exelon Generating Company, LLC, the licensee for LaSalle County Station, Units 1 and 2, proposed changes to Appendix A, Technical Specification (TS) of Facility Operating License Nos. NPF-11 and NPF-18. The basic purpose of the proposed changes is to revise the reference in TS Section 5.5.6, "Inservice Inspection Program for Post Tensioning Tendons," from Regulatory Guide 1.35, Revision 3 to Subsection IWL of Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code.

In order to implement the proposed TS change, the licensee also requested relief CR-32 to use an alternative to the requirements of the ASME Code, Section XI, Subsection IWL that is incorporated by reference in 10 CFR 50.55a. The Code of Record for LaSalle County Station, Units 1 and 2, is the 1998 Edition of the ASME Code, Section XI as authorized by the staff in a letter dated September 18, 2000.

This evaluation addresses Relief Request CR-32 as an alternative to the regulations pursuant to 10 CFR 50.55a(a)(3). The adequacy of the proposed changes to the TS requirements will be addressed by separate correspondence.

2.0 EVALUATION

3.0 RELIEF REQUEST CR-32

Code Requirements:

Subsection IWL-2421 (a) of Section XI of the ASME B&PV Code, 1998 Edition states that the test schedule for the unbonded post-tensioning tendon system of the concrete primary containments for sites with two plants may be modified if the following are applicable:

ENCLOSURE

- Both primary containments utilize the same pre-stressing system and are essentially identical in design,
- Post-tensioning operations for the two primary containments were completed not more than two years apart, and
- Both primary containments are similarly exposed to or protected from the outside environment.

Subparagraph IWL-2421(b) of Section XI of the ASME Code (1998 Edition) specifies the modified test schedule when the conditions of IWL-2421(a) are met.

As the post-tensioning operations for LaSalle County Station, Units 1 and 2, were performed approximately 29 months apart (i.e., greater than 2 years), the licensee is requesting relief from a condition associated with the scheduling of inspections for the two units at LaSalle County Station as discussed in the basis for relief.

Additionally, the licensee is requesting a relief from the requirements of subparagraph IWL-2421(b)(1) for LaSalle County Station, Unit 1, to allow the Unit 1 test schedule to be based on the date of the Unit 2 structural integrity test (SIT).

Basis for Relief:

The licensee provides the following discussion as basis for relief:

"LaSalle County Station, Unit 1 and Unit 2, primary containments utilize the same prestressing system, are essentially identical in design, and both primary containments are similarly exposed to or protected from the outside environment. LaSalle County Station Unit 1 post-tensioning operation was performed in July 1978 and Unit 2 post-tensioning operation was performed in December 1980 (i.e., 29 months apart). LaSalle County Station, Unit 1, initial SIT was performed in December 1978 and Unit 2 initial SIT was performed in June 1983 (i.e., 55 months apart)."

"The NRC in Amendment No.100 for Unit 1 and Amendment No. 84 for Unit 2, issued by NRC letter dated June 3, 1994, approved the use of the guidance contained in Regulatory Guide (RG) 1.35, Inservice Inspection of UngROUTED Tendons in Prestressed Concrete Containments," Revision 3, 1989, and the use of the provisions of Surveillance Requirement (SR) 3.0.2 for the LaSalle County Station Tendon Surveillance Program (Ref. 2). SR 3.0.2 allows the surveillance to be performed within 1.25 times the interval specified in the surveillance's frequency. Additionally, the NRC reviewed our request to treat the Unit 1 and Unit 2 primary containments as "twin containments" even though the SITs were not within two years of each other as described in RG 1.35. The NRC approval was based on their detailed review of data from five Unit 1 and four Unit 2 ISIs. The NRC reviewers noted that for the liftoff forces, if using the completion of construction dates as starting points for comparison, the differences between the two units are of little significance. The NRC review of this data concluded that there is reasonable agreement in the deflection values obtained during the testing at comparable locations of the primary containments and that the treatment of the LaSalle County Station, Unit 1 and Unit 2, primary containments as "twin containments" was

acceptable. This relief request proposes to allow the continued treatment of the Unit 1 and Unit 2 primary containments as "twin containments." This relief request is required since alternatives to the requirements of 10 CFR 50.55a must be granted under the provisions of 10 CFR 50.55a(a)(3)."

Proposed Alternative Provisions:

The modified test schedule of IWL-2421(b) will be used for LaSalle County Station, Unit 1 and Unit 2, primary containments except that the Unit 1 test schedule will be based on the SIT date of Unit 2.

Staff Evaluation:

As the staff had granted a similar relief from the provisions of RG 1.35 for the inspection of post-tensioning tendons in June 1994, the staff focused this review on the differences in the applicable provisions of RG 1.35, and the requirements of 1998¹ Edition of the ASME Code, Section XI, Subsection IWL.

The regulatory guide states that in order to qualify two (containment) units at a site as "twin containments," their initial SITs should not be more than two years apart. The Code requires that in order to qualify two units at a site as "twin containments," their post-tensioning operations for the units must have been completed within two years. The staff believes that the code requirement is an improvement over the provision in the regulatory guide. Thus, the staff reviewed this relief request against the requirements of the Code.

The licensee states that the primary containments utilize the same prestressing system, are essentially identical in design, and both primary containments are similarly exposed to or protected from the outside environment. LaSalle County Station Unit 1 post-tensioning operation was performed in July 1978 and Unit 2 post-tensioning operation was performed in December 1980 (i.e., 29 months apart). Thus, two out of three conditions of IWL-2421(a) are fully satisfied. In conjunction with the staff's earlier review, the staff concludes that the structural behavior of the primary containments and their post-tensioning systems are similar. Allowing them to be considered twin containments for the purpose of inspection of post-tensioning tendons would not impact the safety of the plant.

Additionally, the licensee requests a relief for the first ten-year IWL interval of the primary containment ISI program for the LaSalle County Station, Units 1 and 2, from the scheduling requirement of IWL-2421(b). The Code would allow in IWL-2421(b) alternating the inspection of the post-tensioning tendons of each unit when the conditions of IWA-2421(a) are met. IWA-2421(a) requires, in part, that the post-tensioning operations for each containment constructed be completed not more than 2 years (24 months) apart. The post-tensioning operations for LaSalle 1 and 2 were completed 29 months apart. Instead of the date when post-tensioning

¹Though 10 CFR 50.55a (FRN 41303) incorporates by reference the 1995 Edition and 1996 Addenda of Subsections IWE and IWL of Section XI of the ASME B&PV Code, the staff had authorized the use of 1998 Edition of Subsections IWE and IWL by a letter dated September 18, 2000.

operations were completed, the licensee proposes to use initial SIT date of Unit 2 containment to schedule its future inspections for both units. As the initial SITs of the two plants were 55 months apart (close to 5 years), scheduling the future inspections based on the initial SIT date of Unit 2 would result in future inspections of the two units being staggered every 5 years (i.e., each unit would be inspected every 10 years). The staff finds the scheduled inspections of the two units will be evenly distributed and, thus, appropriate and acceptable. The next inspection of Unit 1 post-tensioning tendons will be in 2003, and that of Unit 2 will be in 2008. Thereafter, the future scheduled inspections of each unit will be 10 years apart. The staff believes that the schedule satisfies the intent of the code requirement and provides an acceptable level of quality and safety.

On the basis that the alternative provides an acceptable level of quality and safety, the staff concludes that the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the LaSalle County Station, Units 1 and 2, for the first 10-year interval of the primary containment ISI program.

Principal Contributor: H. Ashar

Date: August 16, 2001