



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

SAFETY EVALUATION OF TECHNICAL SPECIFICATION AMENDMENT REQUEST

PRESTRESSING TENDONS IN CONTAINMENTS

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-317 AND 50-318

1.0 INTRODUCTION

By letter dated November 20, 1998, Baltimore Gas and Electric Company (BGE, the licensee) submitted an amendment to the Calvert Cliffs Nuclear Power Plant operating license. The amendment consists of changes to plant Technical Specification (TS) requirements. The changes essentially consist of deleting the surveillance requirements and reporting requirements of the TS related to the prestressing tendons in the plant's containment structures.

In its letter, BGE requested the following changes to its current TS:

- Change 1 Delete Technical Specification 5.5.6. "Concrete Containment Tendon Surveillance Program." Technical Specification 5.5.6 is currently conducted in accordance with Regulatory Guide 1.35, Revision 2, 1976. Compliance with Regulatory Guide [RG] 1.35 is not sufficient to ensure compliance with 10 CFR 50.55a, as amended. The Concrete Containment Tendon Surveillance Program will be conducted using the Containment Inspection Program Plan, developed in accordance with Subsection IWL of the ASME B&PV code, as required by 10 CFR 50.55a
- Change 2 Delete Technical Specification 5.6.8, "Tendon Surveillance Report." The tendon Surveillance Report will be reported to the NRC as required by 10 CFR 50.55a(b)(2)(ix)(B), (C), (D), or (E). The Technical Specification is a duplication of the 10 CFR 50.55a requirement.
- Change 3 Delete Surveillance Requirement 3.6.1.2. Containment structural integrity will no longer be verified by the Containment Tendon Surveillance Program, but rather in accordance with Subsection IWL of Section XI of the ASME B&PV Code, incorporated by reference in 10 CFR 50.55a.

This safety evaluation addresses the adequacy of the proposed changes to the TS.

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## 2.0 EVALUATION

Recognizing a need for inspecting the prestressing tendons in prestressed concrete containments, NRC issued RG 1.35, Revision 1 in 1974. The RG was subsequently revised as Rev. 2 and Rev. 3, in 1976 and 1990, to reflect innovative designs and operating experience. The acceptance criteria and reporting guidance are part of the RG. Plant-specific TS requirements for tendon surveillance were developed based on one of the versions of the RG. Prior to issuance of vendor specific improved TS (ITS), there were limiting conditions for operation (LCOs) associated with various acceptance criteria in the TS. During discussions on tendon surveillance requirements in ITS, the staff agreed with the vendors that the LCOs associated with the tendon surveillance acceptance criteria were not needed. As a result of those discussions, the current ITS format for the tendon surveillance requirement was developed. BGE adopted the ITS requirements for tendon surveillance through Amendment Nos. 227 (Unit 1) and 201 (Unit 2). BGE is now requesting deletion of these requirements.

The staff agrees with BGE that changes are necessary in the current ITS for tendon surveillance requirements to ensure that the TS requirements and the requirements of 10 CFR 50.55a for post-tensioning tendon system of prestressed concrete containments are consistent. 10 CFR 50.55a(g)(5)(ii) requires licensees to apply for an amendment to the TS when TS requirements conflict with inservice inspection requirements.

Instead of modifying the TS requirements for the post-tensioning tendon system to be consistent with the inservice inspection (ISI) requirements of 10 CFR 50.55a, BGE proposes to delete current TS requirements. Furthermore, BGE states that the tendon surveillance report will be provided to the NRC as required by 10 CFR 50.55a(b)(2)(ix)(B), (C), (D), or (E). The staff notes that these regulatory requirements supplement the inspection requirements not included in Subsection IWL of the 1992 Edition and Addenda of the Code. Reporting only the conditions in 10 CFR 50.55a(b)(2)(ix)(B), (C), (D), or (E) would exclude the reporting of the conditions required by Subsection IWL, and therefore, does not provide a sufficient amount of information.

The staff's evaluation of the proposed amendment to the Calvert Cliffs Nuclear Power Plant TS finds the following:

1. The post-tensioning tendon system in the Calvert Cliffs containments is a principal strength component in which degradation might adversely affect the ability of the primary containment structure to perform its safety function. Because the containment serves as a principal fission-product barrier, the current TS requirement ensures that the NRC staff is alerted to significant degradation in the tendon system in a timely manner and that appropriate action is taken when an inspection is not performed at the required frequency.
2. 10 CFR 50.55a incorporates by reference the requirements of Section XI of the ASME Boiler and Pressure Vessel Code. Article IWA-6000 of the Code requires licensees to submit ISI summary reports to the regulatory and enforcement authorities within 90 days of the completion of each refueling outage. Section 5.6.8 of the TS requires that any abnormal degradation of the containment structure detected during the containment

tendon surveillance shall be reported to the NRC within 30 days. The specific information and schedule for submittal of reports required by the TS are directly related to the operability of the containment structure and are implemented only when an abnormal (or unacceptable) condition is found. Moreover, for Calvert Cliffs Nuclear Power Station, the frequency of examining concrete and post-tensioning tendon system is every five years, and has no direct or apparent relation to the completion of the refueling outage, and schedule for submitting the ISI summary report, as required by IWA-6000.

3. Changes to IWA-6000 requirements are being proposed at this time by the Code that may impact the submittal of containment ISI summary reports. The staff considers the submittal of the entire ISI summary report that includes the results of containment ISI examinations to be an unnecessary burden on licensees. Therefore, the staff is working in conjunction with industry representatives on the ASME Code, Section XI to develop more practical reporting requirements. Until the Code changes are finalized, and endorsed by the staff, the staff finds that it would not be prudent to delete TS requirements that currently are duplicative but later might be eliminated from the Code. To alleviate this situation at this time, the staff encourages the licensee to submit a relief request pursuant to 10 CFR 50.55a(a)(3)(ii) that would propose an alternative to IWA-6000 requirements that licensee believes are duplicative of TS requirements.

On the basis of the above evaluation, the staff finds that deletion of tendon surveillance requirements in the Calvert Cliffs TS is not acceptable.

### 3.0 CONCLUSION

Based on the review of the licensee's submittal, the staff finds that the proposed changes are not acceptable. Hence, the request for changes to the current TS, as proposed, is denied. To reduce the burden of submitting duplicative information in ISI summary reports as required by IWA-6000 of the ASME Section XI Code, the licensee may propose an alternative to the regulations pursuant to 10 CFR 50.55a(a)(3)(ii).

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Date: July 15, 1999