

December 12, 2002

MEMORANDUM TO: John A. Nakoski, Section Chief  
Project Directorate II, Section 1  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

FROM: Sunil D. Weerakkody, Section Chief/**RA**  
Balance of Plant and Containment Systems Section  
Plant Systems Branch  
Division of Systems Safety and Analysis  
Office of Nuclear Reactor Regulation

SUBJECT: NORTH ANNA, UNITS 1 & 2 - CATEGORY 1 STRUCTURES  
SETTLEMENT MONITORING PROCEDURE REVISION  
(TAC NOS. MB6641, MB6642)

By letters dated April 3, 2002, Virginia Electric and Power Company (licensee) informed the NRC about their plan to revise the periodic test procedure (0-PT-112), Category 1 structures-Settlement Monitoring. This revision was made due to temporary replacement of a service water expansion joint with a pipe spool piece. In a letter dated September 18, 2002, the licensee further informed the NRC the intention to replace the temporary pipe spool pieces with rubber expansion joints. Metal expansion joints were originally installed in these locations due to high settlement rates. The settlement markers are located in the vault of the service water pump-house.

The licensee stated that the settlement rates over the past 10 years have decreased from the original settlement rates. Rubber expansion joints are capable of accommodating the remaining settlement allowed by the technical specifications. The rubber expansion joints are constructed of a more durable material than the original stainless steel expansion joints and are not susceptible to corrosion. The rubber expansion joints will not be susceptible to cracking from potential settlement and less chance of leakage than metal expansion joints. No leakage or failures have been observed on similar rubber expansion joints installed on the service water system or other systems at North Anna. Based on their industry experience, the licensee stated that the rubber expansion joints have an insignificant probability of failure or developing small leaks.

The staff reviewed the licensee's submittal and agreed with its justification for using the rubber expansion joints to accommodate any settlement of the service water piping. The licensee also committed to inspect the rubber expansion joints on a periodic basis in accordance with the manufacturer's warranty. The staff finds that the replacement of the service water metal expansion joints with rubber expansion joints has no effect on the performance of the service water system and, therefore, is acceptable.

CONTACT: Jin-Sien Guo, SPLB/DSSA/NRR  
301-415-1816

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