

November 20, 2007

Mr. James A. Spina, Vice President  
Calvert Cliffs Nuclear Power Plant, Inc.  
Calvert Cliffs Nuclear Power Plant  
1650 Calvert Cliffs Parkway  
Lusby, MD 20657-4702

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION RE: FOURTH TEN-YEAR  
INSERVICE TEST PROGRAM FOR SAFETY-RELATED PUMPS AND VALVES  
- CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2 - (TAC  
NOS. MD5998 THROUGH MD6011)

Dear Mr. Spina:

By letter dated July 2, 2007, Calvert Cliffs Nuclear Power Plant, Inc., submitted the Fourth Ten-Year Inservice Test Program for Safety-Related Pumps and Valves. Included in this submittal were requests for relief from the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code. The Nuclear Regulatory Commission staff has identified additional information that will be required in order to complete our review. Our request for additional information is included in the enclosure. Based on discussions with your staff, it is our understanding that you plan to respond to these questions within 60 days of receipt of this letter.

Please contact me at 301-415-1364 if you have any questions.

Sincerely,

*/RA/*

Douglas V. Pickett, Senior Project Manager  
Plant Licensing Branch I-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-317 and 50-318

Enclosure:  
As stated

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION (RAI)  
CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2  
FOURTH 10-YEAR INTERVAL INSERVICE TESTING (IST) PROGRAM  
DOCKET NOS. 50-317 AND 50-318

**Reference:** Letter from Constellation Energy, to Nuclear Regulatory Commission (NRC), "Calvert Cliffs Nuclear Power Plant, Units 1 and 2, Docket Nos. 50-317 and 50-318, Fourth 10-year Inservice Testing (IST) Program," dated July 2, 2007.

**1. Relief Request GA-RR-01**

RAI GA-RR-01-01

Please confirm that the modifications and limitations in 10 CFR 50.55a(b)(3)(i), (ii), (v), and (vi) will be applied to the Fourth 10-Year Interval.

**2. Relief Request GV-RR-01**

RAI GV-RR-01-01

Please verify that water at ambient temperature is the test medium that will be used to setpoint test the relief valves in the scope of this relief request. Describe the test medium and how the test medium is maintained at ambient temperature if a test medium other than water is used to setpoint test the valves in the scope of this relief request.

**3. Relief Request CVC-RR-01**

RAI CVC-RR-01-01

The NRC has learned that, due to technology advancement and research work performed in the field of instrumentation, vibration-measuring transducers meeting the Code provisions can be easily procured from various suppliers at a reasonably low cost. The NRC also presented a paper on "Pump's Vibration Measuring Instruments (Transducers) Issue" during the Ninth NRC/ASME Symposium on Valve and Pump Testing in July 2006. [NUREG/CP-0151, Vol. 6, July 2006, "Proceeding of the Ninth NRC/ASME Symposium on Valve and Pump Testing" (ML072700042).] Please provide and discuss reasons for not meeting the Code requirement.

RAI CVC-RR-01-02

In the section entitled Basis, the licensee did not mention any hardship and/or reason for not using or installing the Code-required vibration-measuring transducers with specified ranges from one-third minimum pump shaft rotational speed to at least 1000 Hz. The licensee did not provide sufficient information on the basis for the hardship or unusual difficulty associated with complying with the Code. Please provide this information

#### 4. Relief Request SI-RR-01

##### General Comment

This relief request consists of two parts: (1) Relief from paragraph ISTB-1400(b); and (2) Relief from the vibration requirements of paragraph ISTB-5121(e), and Table STB-5121-1.

In the section entitled Alternative Testing, the licensee states that low-pressure safety injection (LPSI) pumps will be tested as stand-by pumps (Group B) during Modes 1-4 and continuously operating pumps (Group A) during Modes 5-6. In Modes 5-6, the comprehensive pump test may be substituted for a quarterly Group A test that comes due during a mid-cycle cold shutdown period.

Please note that the OM Code paragraph ISTB-1400(b) states that "a pump that meets both Group A and Group B pump definitions shall be categorized as a Group A pump." Therefore, the NRC staff is not in a position to authorize the same pump (LPSI pump) to be classified as Group A and Group B during different modes of operation. Based on the licensee's description, the LPSI pumps should be considered as a Group A pump.

##### RAI SI-RR-01-01

In the section entitled Alternative Testing, under LPSI Pump Bearing Acceptance Criteria During Low-Flow Testing, the licensee states that vibration acceptance criteria shall be used for any low-flow LPSI pump post-maintenance (Group A) testing done during cold shutdown periods. Whereas, second paragraph on page 2 of 9 states that the LPSI pumps are also tested at a substantial flow rate (3500 gpm) during every refueling outage, as well as during planned and unplanned cold shutdown periods when plant conditions and circumstances permit.

Based on the general comment above, the licensee needs to revise the relief request to categorize these LPSI pumps as Group A pumps, and to perform vibration measurements (1) during Group A test (at low-flow or full flow); and (2) during the comprehensive test (at full flow or large flow).

##### RAI SI-RR-01-02

In the section entitled Basis, under Minimum Pump Run-Time (page 2 of 9), the licensee states that as Group B pumps, the 2-minute minimum pump run-time for quarterly tests is also eliminated. The licensee is requested to update this information, when LPSI pumps are categorized as Group A pumps as specified in the general comments above.

##### RAI SI-RR-01-03

In the section entitled Alternative Testing, under Item 2, LPSI Pump Bearing Acceptance Criteria During Low-Flow Testing (page 7 of 9), the licensee states that vibration acceptance criteria shall be used for any low-flow LPSI pump post-maintenance (Group A) testing done during cold shutdown periods. Please explain how post-maintenance testing at low-flow provides confidence for operational readiness of LPSI pump at full flow.

RAI SI-RR-01-04

In the section entitled Alternative Testing, under Item 2, LPSI Pump Bearing Acceptance Criteria During Low-Flow Testing (pages 7 and 8 of 9), the licensee provides the maximum acceptable range of vibration  $V \leq 0.63$ ; however the typical value/range values contained in Table 1 and Table 2, are lower than 0.49 ips. Please explain and clarify the use of (higher) acceptable vibration value of 0.63 ips as an alternative. Note: By categorizing LPSI pump as Group A pump as suggested in the general comment, the measured vibration values during Group A and comprehensive tests and their acceptance values may be different.

Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2

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