April 23, 2003

LICENSEE: Calvert Cliffs Nuclear Power Plant, Inc.

FACILITY: Calvert Cliffs Nuclear Power Plant, Unit No. 2

SUBJECT: SUMMARY OF MARCH 18, 2003, CATEGORY 1 MEETING WITH CALVERT CLIFFS NUCLEAR POWER PLANT, INC. TO DISCUSS THE LICENSEE'S ONGOING UNIT NO. 2 REACTOR PRESSURE VESSEL HEAD INSPECTION AS REQUIRED BY THE ORDER DATED FEBRUARY 11, 2003 (TAC NO. MB7609)

On March 18, 2003, a public meeting was held between the U.S. Nuclear Regulatory Commission (NRC), and representatives of Calvert Cliffs Nuclear Power Plant, Inc. (CCNPPI or the licensee) at NRC Headquarters, One White Flint North, 11545 Rockville Pike, Rockville, MD. The purpose of the meeting was to discuss the ongoing inspection of the Calvert Cliffs Nuclear Power Plant, Unit No. 2 reactor pressure vessel (RPV) head. This inspection was in response to the NRC Order dated February 11, 2003.

The licensee presented information on their inspection results to date. They will continue the inspections during a second window of opportunity during the current refueling/steam generator replacement outage. The licensee has removed the insulation off of the RPV head and a 100% bare metal visual inspection indicated no indications of cracks, leakage or boron deposits. The licensee has performed ultrasonic testing (UT) on 13 of 65 control element drive mechanism (CEDM) nozzles to date, with coverage results less than expected and less than required by the Order. The Order requires a 100% UT inspection of each nozzle. The licensee could not inspect 2 inches above the weld or 360 degrees around the nozzles in most cases. The clearance between the thermal guide sleeve and the nozzle did not, in all cases, allow complete access of the UT probes. In some cases, the guide sleeves were distorted such that there was insufficient clearance for insertion of the UT probes between the nozzles and thermal sleeves. With a goal of inspecting every nozzle, the licensee is working on improving probe coverage with modifications to the probes. The licensee recognizes that they may need to remove the thermal guide sleeves since they may not be able to obtain 100% coverage in all cases, and reweld funnels onto the end of the CEDM nozzles. The licensee would like relief from the requirement of 360 degree coverage. However, the licensee could not get relief from 100% UT coverage and made it clear that the structural integrity of the CEDM nozzles was not the critical issue as much as meeting the requirements of the Order of 100% coverage. The licensee is looking at resolving the issue for operation only during the upcoming cycle. They are considering replacement of the RPV head some time in the future. With improvements in the inspection coverage, the licensee's goal is to inspect every nozzle during the next window of opportunity in early April. Then they will make an assessment of the results. Compensatory measures have not been addressed yet. Another meeting with the NRC staff will be planned to provide information on the results of the inspections including the percentage of the area achieved above each weld, the results of the UT leak path assessment and drawings showing the actual geometry of the physical restriction in the nozzles that limits inspection coverage.

The meeting concluded with the identification of four issues that needed further discussion at a later time. Those issues include:

1. Were the yield strengths of the reactor vessel nozzles that experienced primary water stress corrosion cracking higher or lower than the two heats at CCNPP?

2. For the 13 penetrations inspected to date, what percentage of the area above the weld required by the Order has been covered?

3. For the 13 penetrations inspected to date, explain the results of the UT leak path assessment.

4. The staff requested a drawing that shows the actual geometry of the physical restriction in the nozzles that limits inspection coverage.

Subsequent to the meeting, the licensee provided additional information regarding these issues:

1. The licensee identified that all CEDM cracking in Combustion Engineering plants has been in material with higher yield strengths than that at CCNPP. Cracks have been identified in plants from other vendors with yield strengths both higher and lower than that at CCNPP.

2. The question is moot with the completion of inspections at CCNPP.

3. During several discussions with the licensee and their inspection vendor, the analysis method for the leak path data, and in particular application to CCNPP data, was described to the NRC staff. These discussions included a description of the basis for misinterpretation of the data provided initially by the licensee that indicated limited coverage by this approach. The licensee's inspection vendor stated that there was sufficient data to perform the leak path analysis for each nozzle.

4. The licensee provided sketches that illustrate the step on the nozzle inside diameter that limits the annulus between the CEDM nozzles and the thermal guide sleeves.

Three members of the public were in attendance.

Enclosure 1 is a list of the meeting attendees, and Enclosure 2 is a copy of the licensee's slides presented at the meeting.

Please direct any inquiries to Guy S. Vissing, Senior Project Manager at 301-415-1441 or Allen Hiser, Jr., Technical Reviewer at 301-415-1034.

/RA/

Guy S. Vissing, Senior Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-318

Enclosures: 1. List of Attendees
2. Licensee Handouts

cc w/encls: See next page

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/RA/

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ATTENDEES - MEETING
WITH REPRESENTATIVES OF
CALVERT CLIFFS NUCLEAR POWER PLANT, INC.
REGARDING
DISCUSSIONS RELATED TO THEIR RPV INSPECTION PROGRAM
FOR CALVERT CLIFFS UNIT NO. 2
TUESDAY, MARCH 18, 2003

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