

July 5, 2002

MEMORANDUM TO: File

FROM: Jack N. Donohew, Project Manager, Section 2 **/RA/**  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

SUBJECT: CONFERENCE CALL ON REACTOR VESSEL HEAD INSPECTION  
PLAN TO MEET NRC BULLETIN 2002-01 FOR CALLAWAY PLANT,  
UNIT 1 (TAC NO. MB4532)

By letter dated April 1, 2002 (ULNRC-4630), the licensee for Callaway submitted its 15-day response to NRC Bulletin 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity," dated March 18, 2002. The first refueling outage for the Callaway Plant after the Bulletin was issued is the upcoming October/November timeframe of 2002. On May 15, 2002, the staff and the licensee had a telephone conference with the licensee to discuss Attachment II, "Responses to NRC Bulletin 2002-01," to the April 1, 2002, letter.

Attached is the list of NRC questions sent to the licensee in an e-mail dated May 3, 2002, and discussed in the conference call. Included with each question is the licensee's response to the question presented in the call.

The staff will have another telephone conference with the licensee to discuss the results of the upcoming inspection prior to the restart from the refueling outage.

Docket No. 50-483

Attachment: Questions and Licensee's Responses to Questions

July 5, 2002

MEMORANDUM TO: File  
FROM: Jack N. Donohew, Project Manager, Section 2 */RA/*  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation  
SUBJECT: CONFERENCE CALL ON REACTOR VESSEL HEAD INSPECTION  
PLAN TO MEET NRC BULLETIN 2002-01 FOR CALLAWAY PLANT,  
UNIT 1 (TAC NO. MB4532)

By letter dated April 1, 2002 (ULNRC-4630), the licensee for Callaway submitted its 15-day response to NRC Bulletin 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity," dated March 18, 2002. The first refueling outage for the Callaway Plant after the Bulletin was issued is the upcoming October/November timeframe of 2002. On May 15, 2002, the staff and the licensee had a telephone conference with the licensee to discuss Attachment II, "Responses to NRC Bulletin 2002-01," to the April 1, 2002, letter.

Attached is the list of NRC questions sent to the licensee in an e-mail dated May 3, 2002, and discussed in the conference call. Included with each question is the licensee's response to the question presented in the call.

The staff will have another telephone conference with the licensee to discuss the results of the upcoming inspection prior to the restart from the refueling outage.

Docket No. 50-483

Attachment: Questions and Licensee's Responses to Questions

DISTRIBUTION:

PUBLIC

PDIV-2 Reading

RidsNrrDlpmPdiv (CHolden)

JDonohew

EPeyton

SBloom

ALee

\* See previous concurrence

**ACCESSION NO.: ML021700642**

NRR-106

OFFICE	PDIV-2/PM	PDIV-2/LA	EMCB	PDIV-2/SC
NAME	JDonohew:as	EPeyton	SBloom*	SDembek
DATE	7/2/2002	7/3/02	06/28/02	7/3/02

OFFICIAL RECORD COPY

QUESTIONS AND LICENSEE'S RESPONSES TO QUESTIONS

BULLETIN 2002-01 15-DAY RESPONSE

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT 1

DOCKET NO. 50-483

The following are four questions by the NRC staff on the licensee's letter dated April 1, 2002, and the licensee's responses to the questions. The responses were given to the staff in the conference call with the licensee held on May 15, 2002:

1. **Question:** The licensee's 15-day response to Bulletin 2002-01 describes Conoseal leakage that was discovered during a refueling outage in Fall 1987. The area above the insulation was cleaned, however, the insulation was not removed. Provide your basis for concluding that the boron deposits which resulted from the leakage event in 1987 could not have resulted in wastage of the type seen at Davis-Besse.

**Response:** The leakage from two core exit thermocouple nozzle assemblies (commonly referred to as Conoseals and 5 feet above the head) was not present going into the Fall 1987 outage, but occurred for about one week after reassembling the head onto the vessel in the outage. The leakage was small and would have dried up before reaching the head. The licensee concluded that no significant amount of boric acid would have reached the head. The Conoseal leakage was repaired.

2. **Question:** Regarding penetration number 7, the Bulletin 2002-01 15-day response indicated that water tracks were apparent on the penetration, and were noted as "water tracks - clean." Specifically, you concluded that the tracks were not a result of borated water. Discuss the origin of the water tracks, and your basis for excluding borated water as a possible source.

**Response:** The water tracks were water droplets and the licensee believes that the droplets were from a source outside the vessel, such as decontamination activities. It was noted in a maintenance report that no leakage reached the head; the droplets were on top of the insulation. The licensee pointed out that insulation outside the control rod drive mechanism (CRDM) shroud is removed each refueling outage, but the insulation within the shroud has not been removed since it was installed when the plant was being licensed.

3. **Question:** The Bulletin 2002-01 15-day response describes vent valve leakage that was discovered during a refueling outage in 2001. The response indicated that no cleaning was performed under the insulation because there were no signs of degradation on the exposed portion of the reactor vessel head. The response also cited as low as is reasonably achievable (ALARA) concerns as a basis for not cleaning under the insulation inside the CRDM shroud. Discuss whether or not any inspections were

performed in the affected area. The staff notes that Davis-Besse found no degradation outside of the shroud area, but the licensee did identify staining and deposits. With regard to the condition of the head outside of the shroud, discuss whether or not streaking or discoloration was apparent on the head. In addition, state whether or not the reactor head vent valve was repaired prior to commencing operation.

**Response:** The leakage was discovered at the previous refueling outage. The vent valves were repaired or replaced, and accessible areas were inspected and cleaned. Bare metal could be seen with no staining or discoloration of the metal noted. Because the valves were cycled open/shut going into the outage, the licensee believes that the vent valves did not seat properly after the cycling, and this allowed the leakage to occur. There was no evidence of boric acid crystals. The licensee stated that the water did not have a chance to boil off, but any water would have run off the top of the head onto the flange area of the head. The licensee did not remove the insulation inside the shroud, but did remove the insulation outside the shroud. The insulation surface was cleaned.

4. **Question:** With regard to future inspections, discuss whether or not boric acid deposits will be cleaned from the reactor vessel head.

**Response:** The licensee stated that it did not expect to find boric acid deposits on the head; however, deposits that obscure the carbon steel surface of the head will be cleaned/removed. Other deposits, like a light dusting, will be evaluated by the licensee. The licensee plans to use Diablo Canyon's robotic crawler (with camera), but expects to also need to use a camera on an extended pole in a few areas to get 100% coverage of the nozzles because of inaccessibility to those areas.