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May 23, 2002

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
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Gentlemen: ULNRC-4668

DOCKET NO. 50-483
CALLAWAY PLANT
UNION ELECTRIC COMPANY
SUPPLEMENTAL INFORMATION TO 15-DAY RESPONSE TO NRC BULLETIN 2002-01 "REACTOR PRESSURE VESSEL HEAD DEGRADATION AND REACTOR COOLANT PRESSURE BOUNDARY INTEGRITY"

Reference: ULNRC-4630 dated April 1, 2002

The reference letter transmitted the Callaway Plant 15-day response to U.S. Nuclear Regulatory Commission (NRC) Bulletin 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity" dated March 18, 2002. During a subsequent conference call with the NRC staff on May 15, 2002, additional information was provided to facilitate review of our response. Attachment II to this letter provides the additional information in response to the NRC questions.

In addition, it has been identified that in Attachment II, Item 1D, to the reference letter contains a discrepancy in the listed number of Effective Full Power Years (EFPY). The correct value for Callaway Plant is 119 EFPY. The value of 114 EFPY listed in our response was incorrect. This error does not impact the classification for Callaway. Both values are in the low susceptibility bin for PWSCC of the Reactor Vessel Head penetrations.

If you should have any questions regarding this submittal, please contact us.

Very truly yours,

for John D. Blosser
Manager - Regulatory Affairs

BFH/mlo
Attachments: I - Affidavit
II - 60 day Response to NRC Bulletin 2002-01

A095

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STATE OF MISSOURI)
) S S
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David Shafer, of lawful age, being first duly sworn upon oath says that he is Superintendent Licensing, Regulatory Affairs, for Union Electric Company; that he has read the foregoing document and knows the content thereof; that he has executed the same for and on behalf of said company with full power and authority to do so; and that the facts therein stated are true and correct to the best of his knowledge, information and belief.

By David Shafer
David Shafer
Superintendent Licensing
Regulatory Affairs

SUBSCRIBED and sworn to before me this 23rd day of May, 2002.

Melissa L. Orr
MELISSA L. ORR
Notary Public - Notary Seal
STATE OF MISSOURI
City of St. Louis
My Commission Expires: June 23, 2003

Response to NRC Bulletin 2002-01
Reactor Pressure Vessel Degradation and
Reactor Coolant Pressure Boundary Integrity

Below is the Callaway supplemental information to the 15-day response to Nuclear Regulatory Commission (NRC) Bulletin 2002-01, Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity, dated March 18, 2002. The NRC question is shown in bold. The answers follow the questions and contain additional information as discussed in a conference call held on May 15, 2002.

NRC Requested Information

Question 1. Your 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.

The Conoseal leak identified in Callaway's 15-day response was minor and of a limited duration. The leak was not present during head disassembly. It was identified following head replacement and the subsequent heat up. The leak was noted at Normal Operating Temperature (NOT) and Normal Operating Pressure (NOP); therefore it is reasonable to assume that any leakage would have evaporated prior to reaching the Reactor Vessel Head surface, approximately 5 feet below the location of the leak. Prior to commencing power operation, the unit was depressurized and the source of the leak was repaired. Subsequent inspections inside the shroud have identified no boric acid deposits due to this leak.

Question 2. Regarding penetration number 7, your 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.

The Bulletin 2002-01 15-day response described the identification of water tracks that ran through a light dusting of boric acid from a canopy seal weld leak. The source of the water track was not identified in the maintenance report, it is apparently from an external source of water, perhaps from decon activities. The tracks were from droplets running down nozzles. The tracks stopped prior to reaching the head, no fluid leaked on the reactor vessel head from these leaks.

Question 3. Your 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 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.

All accessible areas were inspected and cleaned. Although the insulation inside the shroud has not been removed since construction, the insulation outside of the shroud is removed every refueling outage. The shape of the head within the shroud area is rounded, fluid which leaked through the insulation within the shroud area would flow off the head and onto the flange, which is accessible for cleaning. The bare metal of the Reactor Pressure Vessel Head and flange can be observed outside of the shroud. Additionally, a small gap (1 to 1 1/2 inches high) exists at the bottom of the vertical panels of the insulation package inside the shroud (as viewed from the removed duct openings). The bare metal of the head could be viewed from this location. No degradation was noted. These areas were cleaned. There was no "staining and deposits", degradation or discoloration as identified at Davis-Besse.

It is conjectured that the leak began upon cycling the head vent valves at the beginning of the refueling outage. This is supported by the limited amount of boric acid crystals at the source of the leak (the head vent valve discharge piping) and the absence of significant crystallization above the insulation.

The reactor head vent valves were replaced prior to commencing operation.

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

Callaway plans to utilize cameras mounted on a robotic crawler to examine the reactor vessel head during the upcoming refueling outage (Fall, 2002). Areas that are inaccessible to the crawler will be examined using alternative means such as a camera on an extended pole. Although Callaway does not expect to find boric acid deposits on the head, any deposits found which obscure surfaces such that examination is impeded will be removed. Other boric acid deposits (light dustings, loose crystals, etc.) will be evaluated. The evaluation will determine whether cleaning is necessary or prudent.