UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 3, 2012

Mr. David J. Bannister
Vice President and CNO
Omaha Public Power District
Fort Calhoun Station
444 South 16th St. Mall
Omaha, NE 68102-2247

SUBJECT: FORT CALHOUN STATION, UNIT NO. 1 – REQUEST FOR ADDITIONAL INFORMATION REGARDING PROPOSED CHANGE IN REACTOR VESSEL SURVEILLANCE CAPSULE REMOVAL SCHEDULE (TAC NO. ME8219)

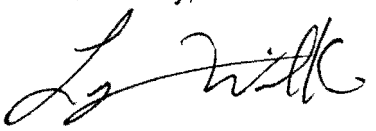
Dear Mr. Bannister:

By letter dated February 6, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12040A317), Omaha Public Power District (OPPD), the licensee for Fort Calhoun Station, Unit No. 1 (FCS), submitted a request for authorization to change the schedule for removal of reactor vessel material surveillance capsules associated with FCS. The proposed changes were submitted pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix H, Section III.B.3, which requires that: (1) withdrawal schedules be submitted with a technical justification, as specified in 10 CFR 50.4, and (2) the proposed schedule must be approved by the U.S. Nuclear Regulatory Commission (NRC) prior to implementation.

The NRC staff has reviewed the information provided in your application and determined that additional information is required in order to complete its review. A draft copy of the enclosed request for additional information was provided to Mr. Bill Hansher of your staff via e-mail on April 9, 2012. On April 13, 2012, Mr. Michael Edwards of your staff indicated that no clarifying telephone call was needed and that the response would be provided within 30 days of receipt of this letter.

If you have any questions, please contact me at 301-415-1377 or via e-mail at lynnea.wilkins@nrc.gov.

Sincerely,



Lynnea E. Wilkins, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosure:
As stated

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION

REACTOR VESSEL SURVEILLANCE CAPSULE WITHDRAWAL SCHEDULE REVISION

OMAHA PUBLIC POWER DISTRICT

FORT CALHOUN STATION, UNIT NO. 1

DOCKET NO. 50-285

By letter dated February 6, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12040A317), Omaha Public Power District (OPPD), the licensee for Fort Calhoun Station, Unit No. 1 (FCS), submitted a request for authorization to change the schedule for removal of the reactor vessel (RV) material surveillance capsules associated with FCS. The proposed changes were submitted pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix H, Section III.B.3, which requires that: (1) withdrawal schedules be submitted with a technical justification, as specified in 10 CFR 50.4, and (2) the proposed schedule must be approved by the U.S. Nuclear Regulatory Commission (NRC) prior to implementation.

The NRC staff has reviewed your submittal and has determined that the following additional information is needed for the staff to complete its evaluation.

1. American Society for Testing and Materials (ASTM) E185-82 recommends that for an RV with a five-capsule withdrawal schedule, such as the FCS RV, the fourth capsule should be withdrawn at approximately 15 effective full power years (EFPY) or at a time when the accumulated neutron fluence of the capsule corresponds to the approximate end-of-life (EOL) fluence at the RV inner wall, whichever comes first. The licensee's proposed schedule for FCS for Capsule W-275S, the fourth capsule for FCS in terms of fluence, calls for the capsule to be withdrawn in 2028 when it has received a fluence of 3.0×10^{19} n/cm^2. The licensee also stated that the projected 60-year (48 EFPY) peak RV fluence is 3.5×10^{19} neutrons-per-square centimeter (n/cm^2). Therefore, the proposed withdrawal fluence of Capsule W-275S is approximately 86 percent of the EOL RV inner wall fluence.

   Please provide a technical justification for withdrawing Capsule W-275S at a fluence that is significantly less than the peak projected RV inner wall fluence at EOL.

2. The proposed schedule calls for Capsule W-275S to be withdrawn at 47.2 EFPY, corresponding to the year 2028. Table 2 of the submittal provides no lead factor for this capsule (implying capsule fluence is identical to the peak RV inner wall fluence). The submittal also indicates that Capsule W-275S was inserted at 13.6 EFPY. Therefore, the capsule will have been irradiated for 33.6 EFPY at withdrawal. The average fluence per EFPY of the peak RV inner wall location should be (3.5×10^{19} n/cm^2/48 EFPY) = 7.29×10^{17} n/cm^2/EFPY. Based on no lead factor, it would appear the fluence received by the capsule would be 33.6 EFPY x 7.29×10^{17} n/cm^2/EFPY = 2.45×10^{19} n/cm^2, which is significantly less than the proposed withdrawal fluence of 3.0×10^{19} n/cm^2 .

Enclosure

low-leakage core, fluence/EFPY would have been higher earlier in plant life. Also, since the projected EOL EFPY is 48 in 2033, the EFPY value of 47.2 for 2028 appears high unless the FCS RV will receive greater than 48 EFPY in 60 calendar years.

Please provide the details of the fluence projection for capsule W-275S.

If you have any questions, please contact me at 301-415-1377 or via e-mail at lynnea.wilkins@nrc.gov.

Sincerely,

/RA/

Lynnea E. Wilkins, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosure:
As stated

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ADAMS Accession No. ML121080125 ***via memo dated**

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NAME	LWilkins	JBurkhardt	SRosenberg**	MMarkley	LWilkins (NKalyanam for)
DATE	4/20/12	4/19/12	3/28/12	5/3/12	5/3/12

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