

August 9, 2006

Mr. R. T. Ridenoure
Vice President - Chief Nuclear Officer
Omaha Public Power District
Fort Calhoun Station FC-2-4 Adm.
Post Office Box 550
Fort Calhoun, NE 68023-0550

SUBJECT: FORT CALHOUN STATION, UNIT NO. 1 RE: ISSUANCE OF
ENVIRONMENTAL ASSESSMENT FOR USE OF M5 (TAC NO. MC8097)

Dear Ridenoure:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for an exemption dated August 11, 2005, as revised by letter dated November 8, 2005, and as supplemented on April 12, 2006. The proposed exemption would allow the use of M5 advanced alloy at the Fort Calhoun Station, Unit 1, nuclear power plant.

The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

Alan B. Wang, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosure: Environmental Assessment

cc w/encl: See next page

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| NAME | AWang | LFeizollahi | GCranton | EBenner | MZobler | DTerao |
| DATE | 8/1/06 | 7/24/06 | 6/9/06 | 8/2/06 | 8/7/06 | 8/9/06 |

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UNITED STATES NUCLEAR REGULATORY COMMISSION

OMAHA PUBLIC POWER DISTRICT

DOCKET NO. 50-285

FORT CALHOUN STATION, UNIT 1

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an exemption from Title 10 of the *Code of Federal Regulations* (10 CFR) 50.46 and 10 CFR Part 50, Appendix K, for Facility Operating License No. DPR-40, issued to Omaha Public Power District (OPPD, the licensee), for operation of the Fort Calhoun Station, Unit 1 (Fort Calhoun Station), located in Washington County, Nebraska. Therefore, as required by 10 CFR 51.21, the NRC is issuing this environmental assessment and finding of no significant impact.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed action would allow the Fort Calhoun Station to use M5 an advanced alloy fuel cladding material for pressurized-water reactors (PWRs).

The proposed action is in accordance with the licensee's application dated August 11, 2005, as revised by letter dated November 8, 2005, and as supplemented by letter dated April 12, 2006.

The Need for the Proposed Action:

The proposed action is needed so that OPPD can use M5 an advanced alloy for fuel rod cladding and other assembly structural components at the Fort Calhoun Station. Section 50.46 and Part 50 of 10 CFR, Appendix K, make no provisions for use of fuel rods clad in a material

other than zircaloy or ZIRLO. Since the chemical composition of the M5 alloy differs from the specifications for zircaloy or ZIRLO, a plant-specific exemption is required to allow the use of the M5 alloy as a cladding material or in other assembly structural components at the Fort Calhoun Station.

Environmental Impacts of the Proposed Action:

The underlying purposes of 10 CFR 50.46 and 10 CFR Part 50, Appendix K, are to ensure that facilities have adequate acceptance criteria for the emergency core cooling system (ECCS), and to ensure that cladding oxidation and hydrogen generation are appropriately limited during a loss-of-coolant accident (LOCA) and conservatively accounted for in the ECCS evaluation model, respectively. Neither 10 CFR 50.46 nor 10 CFR Part 50, Appendix K, explicitly allows the use of M5 as a fuel rod cladding material or for other assembly structural components. Topical Report (TR) BAW-10227P, "Evaluation of Advanced Cladding and Structural Material (M5) in PWR Reactor Fuel," which was approved by the NRC on February 4, 2000, demonstrated that the effectiveness of the ECCS will not be affected by a change from zircaloy to M5. In addition, TR BAW-10227P demonstrated that the Baker-Just equation (used in the ECCS evaluation model to determine the rate of energy release, cladding oxidation, and hydrogen generation) is conservative in all post-LOCA scenarios with respect to M5 advanced alloy as a fuel rod cladding material or in other assembly structural components. The licensee will use NRC-approved methods for the reload design process for Fort Calhoun Station reloads with M5. The NRC has completed its safety evaluation of the proposed action and concludes that licensee's request to use the M5 advanced alloy for fuel rod cladding and in other assembly structural components in lieu of zircaloy or ZIRLO is acceptable.

The details of the staff's safety evaluation will be provided in the exemption that will be issued as part of the letter to the licensee approving the exemption to the regulation.

The proposed action will not significantly increase the probability or consequences of accidents. No changes are being made in the types of effluents that may be released off site. There is no significant increase in the amount of any effluent released off site. There is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential non-radiological impacts, the proposed action does not have a potential to affect any historic sites. It does not affect non-radiological plant effluents and has no other environmental impact. Therefore, there are no significant non-radiological environmental impacts associated with the proposed action.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action.

Environmental Impacts of the Alternatives to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the “no-action” alternative). Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources:

The action does not involve the use of any different resources than those previously considered in the Final Environmental Statement for the Fort Calhoun Station dated August 1972.

Agencies and Persons Consulted:

In accordance with its stated policy, on June 14, 2006, the staff consulted with the Nebraska State official, Julia Schmitt of the Department of Health and Human Services Regulation and Licensors, regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated August 11, 2005, as revised by letter dated November 8, 2005, and as supplemented on April 12, 2006. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff by telephone at 1-800-397-4209 or 301-415-4737, or send an e-mail to pdr@nrc.gov.

Dated at Rockville, Maryland, this 9th day of August 2006.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Alan B. Wang, Project Manager
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Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Ft. Calhoun Station, Unit 1

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April 2006