

July 19, 2006

NOTE TO: William H. Ruland, Deputy Director  
Spent Fuel Project Office  
Office of Nuclear Material Safety  
and Safeguards

THROUGH: Christopher M. Regan, Acting Chief **/RA/**  
Licensing Section  
Spent Fuel Project Office  
Office of Nuclear Material Safety  
and Safeguards

FROM: Joseph M. Sebrosky, Senior Project Manager **/RA/ by Stewart Brown for/**  
Spent Fuel Project Office  
Office of Nuclear Material Safety  
and Safeguards

SUBJECT: CONCERNS REGARDING EXEMPTION FROM 10 CFR 72.48, 10 CFR 72.212  
AND 72.214 FOR DRY SPENT FUEL STORAGE ACTIVITIES - FORT  
CALHOUN STATION

The purpose of this note is to respond to the concerns identified in an anonymous letter dated June 20, 2006, regarding Omaha Public Power District's (OPPD's) exemption request dated June 9, 2006. The anonymous letter is publicly available in the records component of NRC's Agencywide Documents Access and Management System (ADAMS). The ADAMS accession number for the anonymous letter is ML061800438. OPPD requested in its June 9, 2006, letter an exemption from NRC regulations to enable the use of a light-weight transfer cask (TC) and allow an earlier start time for vacuum drying. The June 20, 2006, anonymous letter requests that the NRC deny OPPD's exemption request, because in general: 1) there is no valid basis for OPPD to file the exemption request or for the NRC to grant the exemption, 2) it would lead to higher doses for the workers, and 3) the possibility that use of the TC with temporary shielding introduces a new type of accident.

The need for the exemption was identified during an NRC inspection of the licensee's preparation for the dry cask storage campaign. Interactions with the NRC led OPPD management to the determination that submittal of an exemption request was the optimum path forward for use of the light weight TC at the Fort Calhoun Station. Regarding the basis for NRC granting the exemption, NRC's regulations permit licensees to seek exemptions in special circumstances which NRC may grant if it determines that the exemption is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest. NRC's basis for granting OPPD an exemption is documented in its safety evaluation report (SER) dated July 19, 2006 (ADAMS accession no. ML062000153). Regarding doses to the workers, in the SER the staff evaluates the use of the light-weight TC and measures taken to compensate for the removal of the lead shielding in the TC (e.g., use of supplemental shielding, remote operation of the spent fuel pool building crane, and use of fuel with a minimum cooling time of 16.2 years to reduce the dose rate). In the SER the staff evaluated the exemption against the shielding and dose requirements in 10 CFR Part 72 and 10 CFR Part 20 and concludes that these requirements are met. Regarding the possibility of

introducing a new type of accident because of the introduction of the temporary shielding, the staff also evaluated this issue in the SER. The staff's determination is that the temporary shielding does not introduce the possibility of an accident that is not bounded by previously analyzed accidents.

The staff placed four conditions on the exemption which are:

- 1) OPPD will be limited to loading a total of four 32PT DSCs.
- 2) OPPD shall limit the decay heat level per DSC to 11 kW to ensure cask loadings are bounded by the analyses supporting the TN CoC No. 1004, Amendment No. 8.
- 3) OPPD shall limit the cooling time of the fuel that it intends to load to a minimum of 16.2 years to ensure that the radiological source term for fuel that is loaded in the light weight TC is kept as low as reasonably achievable.
- 4) The TS 1.2.11 dose rate limit/specification are substituted with the limit of 170 mrem/hr in the axial direction and 110 mrem/hr in the radial direction. The axial dose rate limit of 170 mrem/hr is to be taken under the conditions in Table 1 below. The radial dose rate limit of 110 mrem/hr is to be taken under the conditions in Table 2 below.

Table 1 Axial Dose Rate Measurement Configuration
32PT DSC inside the OS197L inside the decon sleeve/bell
water drained from the DSC
TC/DSC annulus full (within approximately 1 foot of the top)
TC neutron shield full
top shield plug in place and included in axial shielding
inner top cover plate in place and included in axial shielding
automated welding system (AWS) with integral shield in place and included in axial shielding
measurement taken at vertical centerline of DSC, 3 feet from AWS shield

Table 2 Radial Dose Rate Measurement Configuration
32PT DSC inside OS197L inside decon sleeve/bell
water drained from the DSC
TC/DSC annulus full (within approximately 1 foot of the top)
TC neutron shield full
6 inch nominal thickness carbon steel decon sleeve/bell in place and included in radial shielding
measurement taken at outside surface (contact) of decon sleeve/bell

Given the staff's safety determination and the limited nature of the exemption, the staff believes that the issuance of the exemption is warranted. The NRC considers public involvement in our activities to be a cornerstone of strong, effective, and fair regulation of the nuclear industry. The staff appreciates the concern regarding OPPD's exemption request being identified to us. If there are questions regarding this issue please contact Joe Sebrosky at (301) 415-8500.

Docket Nos. 72-54, 50-285

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Table 2 Radial Dose Rate Measurement Configuration
32PT DSC inside OS197L inside decon sleeve/bell
water drained from the DSC
TC/DSC annulus full (within approximately 1 foot of the top)
TC neutron shield full
6 inch nominal thickness carbon steel decon sleeve/bell in place and included in radial shielding
measurement taken at outside surface (contact) of decon sleeve/bell

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cc:

Winston & Strawn  
ATTN: James R. Curtiss, Esq.  
1700 K Street, N.W.  
Washington, DC 20006-3817

Chairman  
Washington County Board of Supervisors  
P.O. Box 466  
Blair, NE 68008

Mr. John Hanna, Resident Inspector  
U.S. Nuclear Regulatory Commission  
P.O. Box 310  
Fort Calhoun, NE 68023

Regional Administrator, Region IV  
U.S. Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-4005

Ms. Julia Schmitt, Manager  
Radiation Control Program  
Nebraska Health & Human Services R & L  
Public Health Assurance  
301 Centennial Mall, South  
P.O. Box 95007  
Lincoln, NE 68509-5007

Mr. David J. Bannister, Manager  
Fort Calhoun Station  
Omaha Public Power District  
Fort Calhoun Station FC-1-1 Plant  
P.O. Box 550  
Fort Calhoun, NE 68023-0550

Mr. Joe L. McManis  
Manager - Nuclear Licensing  
Omaha Public Power District  
Fort Calhoun Station FC-2-4 Adm.  
P.O. Box 550  
Fort Calhoun, NE 68023-0550

Mr. Daniel K. McGhee  
Bureau of Radiological Health  
Iowa Department of Public Health  
Lucas State Office Building, 5th Floor  
321 East 12th Street  
Des Moines, IA 50319

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, Nebraska 68023-0550