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Docket Number 50-346

License Number NPF-3

Serial Number 3105

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U.S. Nuclear Regulatory Commission  
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Subject: Updated Information Regarding the Existing Exemption from 10 CFR 50, Appendix R, for the Component Cooling Water Heat Exchanger and Pump Room (TAC No. MB1078)

Ladies and Gentlemen:

This letter updates information included in an approved exemption issued by the Nuclear Regulatory Commission on December 26, 2002 for the Davis-Besse Nuclear Power Station (DBNPS) (DBNPS Log Number 6041). The exemption concerns certain requirements of 10 CFR Part 50, Appendix R, Section III.G, "Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979; Fire Protection of Safe Shutdown Capability."

The information being updated is the actuation temperature for the Component Cooling Water (CCW) pump room sprinkler system. On December 21, 2000, FENOC by letter (DBNPS Serial Number 2680) submitted a request for amendment of an exemption previously approved by the NRC on November 23, 1982 (DBNPS Log Number 1138). The December 21, 2000 letter referred to a March 15, 1989 DBNPS letter (DBNPS Serial Number 1642) as follows: "The letter noted that the manual operator action to establish temporary ventilation in the CCW pump room in the event of a fire is no longer considered necessary since the CCW pumps would not overheat despite the fire and postulated loss of the CCW pump room ventilation."

The amended exemption request was approved on December 26, 2002. Page 4 of the December 26, 2002 exemption states, "The licensee concluded that since the sprinkler system operated at 165°F, the sprinkler system would keep the pumps from reaching 185°F, allowing the pumps to remain operational. Therefore, the licensee concluded the CCW pump room ventilation was not necessary for SSD [Safe Shutdown] and fire wrap on the associated cabling for the ventilation system was no longer necessary."

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The 165°F sprinkler system actuation temperature quoted in the December 26, 2002 exemption was incorrect. The quoted value appears to have been obtained from Attachment 1, Page 9 of the March 15, 1989 letter. However, subsequent to the March 15, 1989 submittal, the DBNPS installed a new sprinkler system in the CCW pump room. The fusible links in the new system actuate at 212°F.

An engineering evaluation was performed in 1990 to determine the effect of a fire involving a single CCW pump on the remaining CCW pumps. This evaluation postulated a failure of the CCW pump room ventilation fans and the CCW pump room louvers. A fire scenario was developed based on the nature and distribution of combustibles in the room, and typical activities that might occur in the room. No credit was taken for personnel intervention or the absence of ignition sources. Fire modeling techniques were used to characterize the fire, its influence on the room environment, and initiation of the installed suppression system. The following paragraph summarizes the conclusions of the 1990 engineering evaluation:

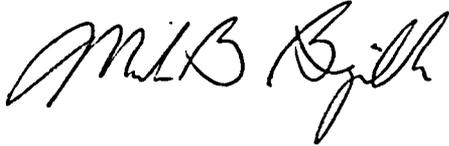
Typically, fires produce a buoyant plume that rises to the ceiling where heated fire gases begin to accumulate. As the fire continues to burn, hot gases rise into a stratified layer, resulting in a continuing increase in its depth. In the meantime, the air below the hot gas layer remains at ambient temperature. The CCW pump room has a ceiling height of approximately 17 feet. The tops of the CCW pump motors are approximately 7 feet above the floor, with the motor ventilation air intakes at a slightly lower elevation. Therefore, the distance from the CCW pump motor air intakes to the room ceiling exceeds ten feet. Even though the sprinkler actuation temperature is now higher than the 185°F CCW pump motor intake temperature limit, the vertical distance between the sprinklers and the CCW pump motor intakes ensures that sprinkler actuation will still occur before the CCW pump motor intake temperature limit is exceeded. In no case will the temperature at the CCW motor air intakes exceed 185°F.

This information is provided to ensure complete and accurate disclosure of information considered in the December 26, 2002 exemption. Based on the engineering evaluation described above, FENOC believes that the technical basis for the December 26, 2002 exemption remains valid.

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If you have any questions or require further information, please contact Mr. Henry L. Hegrat, Supervisor – Fleet Licensing, at (330) 315-6944.

Very truly yours,

A handwritten signature in black ink, appearing to read "M. B. Byrd". The signature is written in a cursive style with a large, prominent "M" and "B".

MSH

Enclosure: Commitment List

cc: J. L. Caldwell, Regional Administrator, NRC Region III  
J. B. Hopkins, DB-1 Senior NRC/NRR Project Manager  
C. S. Thomas, DB-1 NRC Senior Resident Inspector  
Utility Radiological Safety Board

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**COMMITMENT LIST**

The following list identifies those actions committed to by the Davis-Besse Nuclear Power Station, Unit Number 1, (DBNPS) in this document. Any other actions discussed in the submittal represent intended or planned actions by the DBNPS. They are described only for information and are not regulatory commitments. Please notify the Supervisor – Fleet Licensing (330-315-6944) of any questions regarding this document or associated regulatory commitments.

**COMMITMENTS**

**DUE DATE**

None

NA