

Mark B. Bezilla
Vice President - Nuclear

419-321-7676
Fax: 419-321-7582

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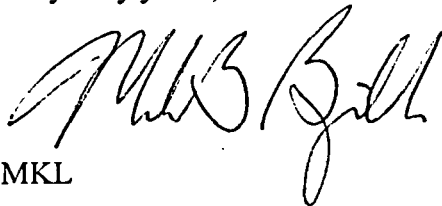
Subject: Supplemental Information Regarding the Request for Exemption from 10 CFR 50, Appendix R, Section III.G.3 for Fire Area HH (TAC No. MC1833)

Ladies and Gentlemen:

On January 20, 2004, the FirstEnergy Nuclear Operating Company (FENOC) submitted a request for an exemption from Title 10 of the Code of Federal Regulations (CFR), Section 50, Appendix R, "Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979," Section III.G.3, for the Davis-Besse Nuclear Power Station, Unit 1 (DBNPS) Fire Area HH (DBNPS letter Serial Number 3003). By NRC letter dated July 8, 2004, FENOC received a request for additional information (DBNPS letter Log Number 6212) regarding the exemption request. Enclosure 1 provides the response to this request.

Should you have any questions or require additional information, please contact Mr. Robert W. Schrauder, Director – Performance Improvement, at (419) 321-7181.

Very truly yours,



MKL

Enclosures

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

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RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
REGARDING
EXEMPTION REQUEST
FOR
DAVIS-BESSE NUCLEAR POWER STATION
UNIT NUMBER 1

Question 1:

The exemption request states that Fire Area HH consists of three rooms: the Air Conditioning (A/C) Equipment Room (Room 603), the Records and Storage Area (Room 603A), and Vestibule (Room 603B).

- a. Provide a description of the separation of the rooms in the fire area. For example, what is the separation between 603, and 603A and 603B?
- b. Describe the fire brigade's methods for dealing with fires in these areas.

DBNPS Response to Question 1:

- a. Rooms 603 and 603A are separated by a non-rated wall and door, however the other walls forming the boundary of these rooms are three-hour rated. The walls that surround Room 603B are two-hour rated on the north, south, and three-hour rated on the east. A rated wall and door separates Room 603B from Room 603 on the west. The floors of the three rooms are three-hour rated. The majority of the ceiling goes to the outside and is therefore not rated. The ceiling of 603B is a rated fire barrier.
- b. Basic guidance for fighting a fire in one of these rooms is given to the fire brigade in pre-fire plans PFP-AB-603 (covers Room 603 and 603A) and PFP-AB-603B (covers Room 603B). As the size and nature of each fire is different the guidance is general and specific guidance will be as directed by the fire captain during the actual fire fighting operations, using available portable fire extinguishers and standpipe hose stations.

Question 2:

The exemption request states that "fire damage to the circuits for the Control Room Emergency Ventilation in Fire Area HH could disable the Control Room HVAC [heating, ventilation, and air conditioning]."

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- a. Describe the shutdown procedures for the plant in the event of the loss of Control Room HVAC. Include time estimates for various steps and estimated time that Control Room evacuation will be required. Are manual actions required? If so, briefly describe the complexity of the manual actions.
- b. Provide examples of other procedures that could be used to ventilate the room. Are there any other means that could be used to ventilate the control room which could avoid control room evacuation (such as ventilation fans, propping doors open)? If there are other means, how long will these means delay control room abandonment?

DBNPS Response to Question 2:

During normal operation, the Control Room Emergency Ventilation System (CREVS) is held in standby. In the event of a fire with a Loss Of Offsite Power (LOOP), the Control Room Normal Ventilation System is shut down automatically (due to the fact that it is powered solely from non-essential power) and the CREVS is initiated manually from the Control Room in a closed complete recirculation mode in which outside air is not introduced due to the normally closed position of the outside air dampers. All Control Room Normal Ventilation System outside air dampers will automatically close to minimize the possibility of inhalation of smoke to operating personnel. In the event all Control Room ventilation is lost, the operators may evacuate the Control Room and perform the necessary shutdown actions locally and at emergency control stations. Procedures are in place to provide guidelines for these actions.

- a. Davis-Besse procedure DB-OP-02533, "Control Room Emergency Ventilation System Load Shedding," provides guidance upon the loss of normal Control Room Ventilation with subsequent initiation of the Control Room Emergency Ventilation System. The procedure directs the de-energization of selected Control Room and Control Room Cabinet Room electrical loads in an effort to maintain Control Room Cabinet Room temperature. If the Control Room Cabinet Room temperature reaches 105 °F, the procedure directs that a plant shutdown be performed. If the Control Room Cabinet Room temperature reaches 110 °F, the procedure requires that the reactor be manually tripped.

The majority of the actions specified in the procedure are routine actions for plant operators (e.g. opening breakers, etc.) and not complicated manual actions. The exception to these routine actions is a provision in the procedure to have maintenance technicians install electrical jumpers if radiation elements are preventing the operation of normal ventilation. However, because the normal ventilation would likely not be available in the large fire postulated for the Appendix R analysis, there would not be a need for these jumpers.

Davis-Besse calculation DB-C-11, "Control Room Temperature Rise," Revision 1, indicates that with load shedding it would take in excess of 40 minutes to reach 110 °F, which is the procedure-directed temperature at which the reactor would be manually tripped. With no

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operator actions, the data from the calculation (i.e. ~ 1 °F/min. temperature rise) indicates that it would take approximately 30 minutes to reach 105 °F, which is the procedure-directed temperature at which a plant shutdown would be initiated.

There is no specified time or criteria in procedure DB-OP-02533 for evacuating the Control Room. In accordance with Davis-Besse procedure DB-OP-02501, "Serious Station Fire," the Shift Manager would make the determination to evacuate the Control Room when it is judged to be uninhabitable.

- b. While procedure DB-OP-02533 includes actions for load shedding, it does not include propping doors open, bringing in portable fans, etc. These actions could be initiated at the direction of the Shift Manager depending on plant conditions, and adequate resources would be available. These actions could forestall the need to abandon the control room indefinitely, depending on the actual control room conditions.

Question 3:

The exemption request also states that grease and lube oil are present in the room. Describe the quantity and location of these combustibles and possible sources of ignition with respect to the cables of interest.

DBNPS Response to Question 3:

The CREVS circuits are intermingled with the combustibles in the area. Davis-Besse calculation C-FP-013.10-006, "Combustible Loading Analysis," Revision 4, shows that the Fire Area HH total combustible loading is less than 15,000 BTU/ft². This calculation shows a total of slightly more than 13 gallons of lube oil in six components: two compressors that each contain approximately 4.25 gallons of lube oil, and a total of approximately 4.5 gallons in two dampers and two condensers. Grease is present in various other components (e.g. motor-operated valves) but did not meet the criteria for inclusion in the calculation. Rotating equipment located in these rooms, i.e., compressors and fans, as well as the power supplies for various equipment, are potential ignition sources. Davis-Besse calculation C-FP-013.10-005, "Combustible Loading Contribution of Electrical Raceways and Enclosures," Revision 2, shows that there are no cable trays in any of these three rooms, i.e., the CREVS circuits are routed in conduit.

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Question 4:

The exemption request states that fire detection covers “approximately 96 percent of Fire Area HH.”

- a. Provide a description of the fire detection system(s) present in room 603.
- b. List the codes or standards to which it was designed and installed to, and any deviations from the code.
- c. Provide justification for not having a fire detection system that covers 100 percent of the fire area. If rooms 603A and 603B do not have fire detection, explain how a fire in these areas will be detected and extinguished.
- d. Provide details regarding the proximity of 603A and 603B to the cables of interest.

DBNPS Response to Question 4:

- a. There are 15 ionization smoke detectors in Room 603.
- b. The layout of the detection was done in accordance with NFPA 72E-1978, “Standard on Automatic Fire Detectors”. The alarms from the detectors are transmitted to a local panel outside the room and then on to the Control Room. The alarm(s) are then displayed on a graphic of the room on a computer display. A review of the NFPA 72E code compliance review summary for Room 603 does not indicate any deviations.
- c. The floor areas of Rooms 603, 603A, and 603B are 3013, 77, and 60 ft², respectively. The two rooms without detection (Rooms 603A and 603B) are small rooms with negligible combustible loading. Based on this low hazard, the installation of fire detection in these rooms was never warranted. Therefore, in the absence of fire detection and automatic suppression, mitigation of a fire starting in these rooms would depend upon human detection and manual suppression by the fire brigade.
- d. Rooms 603A and 603B adjoin Room 603 and therefore are in the vicinity of components and raceways in Room 603. As previously noted, Rooms 603 and 603A are separated by a non-rated wall and door, and Rooms 603 and 603B are separated by a rated wall and door. Therefore, the CREVS components are not directly exposed.

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Question 5:

Provide a description of the combustible loading limitations in each of these areas.

DBNPS Response to Question 5:

Davis-Besse procedure DB-FP-00007, "Control of Transient Combustibles," sets the limit for these rooms as follows:

Room	Column I (BTUs)	Column II (BTUs)
603	96,416,000	120,520,000
603A	2,464,000	3,080,000
603B	1,920,000	2,400,000

In accordance with this procedure, if the transient loading is less than the column I value, no compensatory measures are required. If the value exceeds column I but is less than column II, then the Fire Protection Advisor/designee or Shift Engineer evaluates it and determines if additional compensatory measures are warranted. If the value exceeds column II then an hourly fire watch and additional suppression shall be required.

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COMMITMENT LIST

THE FOLLOWING LIST IDENTIFIES THOSE ACTIONS COMMITTED TO BY THE DAVIS-BESSE NUCLEAR POWER STATION (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 DIRECTOR- PERFORMANCE IMPROVEMENT (419-321-7181) AT THE DBNPS OF ANY QUESTIONS REGARDING THIS DOCUMENT OR ANY ASSOCIATED REGULATORY COMMITMENTS.

COMMITMENTS	DUE DATE
None.	N/A