



FirstEnergy Nuclear Operating Company

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Docket Number 50-346

10 CFR 50.12

License Number NPF-3

Serial Number 3003

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United States Nuclear Regulatory Commission  
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Subject: Request for Exemption from 10 CFR 50, Appendix R, Section III.G.3 for Fire Area HH

Ladies and Gentlemen:

This letter transmits a FirstEnergy Nuclear Operating Company (FENOC) 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.

In accordance with 10 CFR 50.12, "Specific Exemptions," FENOC requests an exemption from the requirements specified in 10 CFR 50, Appendix R, Section III.G.3 to the extent it requires fixed fire suppression and detection in an area for which alternate shutdown capability is provided. Specifically, alternate shutdown capability is provided for the Control Room Emergency Ventilation System circuits routed through Fire Area HH.

Information supporting this request is contained in the attachment. As described in the attachment, FENOC has concluded that for the reasons specified in the enclosure, special circumstances, as defined in 10 CFR 50.12 exist; that the granting of the requested exemption will not present an undue risk to the health and safety of the public; and that the granting of the requested exemption is consistent with the common defense and security.

A similar exemption for Fire Area HH was previously requested by letter dated March 6, 1986 (Davis-Besse letter Serial number 1255). The exemption request was revised to provide a discussion of special circumstances in accordance with 10 CFR 50.12 by letter dated January 12, 1987 (Davis-Besse letter Serial number 1327). By letter dated April 18, 1990 (letter Log number 3219), the NRC concluded that the exemption for Fire Area HH was not required because Generic Letter (GL) 86-10, "Implementation of Fire Protection Requirements," allowed performance-based evaluations for satisfying the applicable requirements of Appendix R. The

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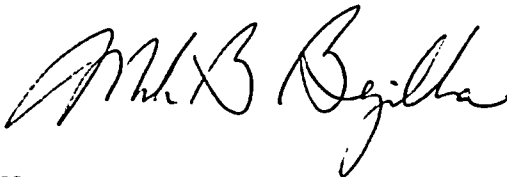
table included in the NRC discussion shows that an exemption for Fire Area HH was not required.

During an NRC Fire Protection Inspection conducted during the week of April 21, 2003, however, NRC inspectors questioned the lack of an exemption for Fire Area HH. The current licensing basis for Fire Area HH credits the NRC letter dated April 18, 1990, and a GL 86-10 evaluation as the basis for not having area-wide fixed fire suppression and detection in the area. The NRC inspectors' position was that a GL 86-10 evaluation is not sufficient to satisfy Section III.G.3 of 10 CFR 50, Appendix R, and that an exemption should have been obtained.

As a result of the position of the NRC inspectors, an hourly fire watch has been initiated in Fire Area HH as a temporary compensatory measure. Additionally, as a conservative measure to address the recent NRC inspectors' position (which differs from the NRC position in the NRC's letter of April 18, 1990), FENOC requests an exemption from Section III.G.3 of 10 CFR 50, Appendix R, with respect to Fire Area HH. FENOC requests that the exemption be approved by the NRC by June 16, 2004. If the NRC determines that an exemption is not needed and that the previous NRC action with respect to the Fire Area HH exemption request was correct, the FENOC requests that the basis for the determination be provided so that the current licensing basis for Fire Area HH can be clarified.

If you have any questions or require further information, please contact Mr. Gregory A. Dunn, Manager – Regulatory Affairs, at (419) 321-8450.

Very truly yours,



CWS

Attachment  
Enclosure

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

**DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1  
REQUEST FOR EXEMPTION FROM 10 CFR 50, APPENDIX R, "FIRE PROTECTION  
PROGRAM FOR NUCLEAR POWER FACILITIES OPERATING PRIOR TO  
JANUARY 1, 1979," SECTION III.G.3**

In accordance with 10 CFR 50.12, "Specific Exemptions," FirstEnergy Nuclear Operating Company (FENOC) requests an exemption from the requirements specified in 10 CFR 50, Appendix R, Section III.G.3 to the extent it requires fire detection and fixed fire suppression in an area for which alternate shutdown capability is provided. Specifically, alternate shutdown capability is provided for the Davis-Besse Nuclear Power Station, Unit 1 (DBNPS) Control Room Emergency Ventilation System circuits routed through Fire Area HH in the Auxiliary Building. The alternate shutdown capability (Auxiliary Shutdown Panel) is physically and electrically independent of Fire Area HH. Fire Area HH is described in Section 4.6.HH of the DBNPS Fire Hazards Analysis Report (FHAR).

**DESCRIPTION OF CONDITION**

Fire Area HH consists of the Air Conditioning (A/C) Equipment Room (Room 603), the Records and Storage Area (Room 603A), and Vestibule (Room 603B). The area consists of approximately 3,150 square feet of floor area, with an in-situ combustible loading consisting of cable insulation; heating, ventilation and air conditioning (HVAC) duct insulation; and small quantities of grease, lube oil, and miscellaneous combustibles. The total combustible loading in the area is less than 20,000 BTU/ft<sup>2</sup>, which equates to an equivalent fire severity of 15 minutes in accordance with the National Fire Protection Association "Fire Protection Handbook," Sixteenth Edition. Existing fire protection capability in the area consists of a fire detection system that protects the A/C Equipment Room (Room 603) and manual (not fixed) fire suppression capability consisting of portable fire extinguishers and standpipe hose stations for the protection of the entire area. Fire Area HH has primarily 3-hour fire barriers on the walls and floors as described in the FHAR.

Fire damage to the circuits for the Control Room Emergency Ventilation in Fire Area HH could disable the Control Room HVAC. Loss of the Control Room HVAC is not expected to have an immediate effect on the ability to shutdown the plant from the Control Room. Although procedural guidance to mitigate a temporary loss of HVAC is provided, the Operators may need or choose to abandon the Control Room due to high temperatures. Alternate shutdown capability can be provided by evacuating the Control Room and shutting down the plant from the Auxiliary Shutdown Panel. Plant procedures include instructions for these manual operator actions if Control Room cooling is disabled.

**EVALUATION**

An exemption from the requirements of Section III.G.3 to provide area-wide fire detection and fixed fire suppression in Fire Area HH is requested, based upon the following evaluation:

The equivalent fire severity in Fire Area HH is approximately 15 minutes, primarily consisting of cable insulation and HVAC duct insulation. A fire originating in these materials plus an assumed transient is not expected to produce a fire of significant magnitude. The installed detection system (covering approximately 96% of Fire Area HH) will alert the Control Room operators to summon the fire brigade to respond and manually extinguish the fire. If damage occurs to the Control Room Emergency Ventilation System, safe shutdown of the plant can be performed at the Auxiliary Shutdown Panel.

Therefore, based on the above discussions it is FENOC's conclusion that an acceptable level of protection is provided for Fire Area HH. The addition of a fixed fire suppression system to this area would not significantly enhance the level of fire protection provided for safe shutdown equipment.

### **REASON FOR EXEMPTION REQUEST**

The requirements specified in 10 CFR 50, Appendix R, Section III.G.3 require fire detection and fixed fire suppression in areas for which alternate shutdown capability is provided. The total combustible loading in Fire Area HH is less than 20,000 BTU/ft<sup>2</sup>. Existing fire protection capability in the area consists of a detection system, protecting Room 603 (approximately 96% of Fire Area HH) and manual fire suppression capability consisting of portable fire extinguishers and standpipe hose stations for the protection of the entire area. Although fire damage to circuits located in Fire Area HH could disable the Control Room HVAC, alternate shutdown capability can be provided by evacuating the Control Room and shutting down the plant from the Auxiliary Shutdown Panel. Station procedures include instructions for these manual operator actions if Control Room cooling is disabled.

### **BASIS FOR EXEMPTION**

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50 when: (1) the exemptions are authorized by law, will not present an undue risk to public health and safety, and are consistent with the common defense and security; and (2) when special circumstances are present.

The requested exemption from the requirements of 10 CFR 50 Appendix R, Section III.G.3, satisfies the 10 CFR 50.12 requirements, as described below:

1. **The requested exemption is authorized by law**

The NRC authority to grant exemptions from the requirements of Title 10 of the Code of Federal Regulations, Part 50 is codified in 10 CFR 50.12. Since the exemption request does not present an undue risk to public health and safety, will not endanger the common defense and security, as discussed below, the NRC is authorized to issue the exemption.

2. The requested exemption will not present an undue risk to public health and safety

The equivalent fire severity in Fire Area HH is approximately 15 minutes, primarily consisting of cable insulation and HVAC duct insulation. A fire originating in these materials plus an assumed transient is not expected to produce a fire of significant magnitude. The installed detection system will alert the Control Room operators to summon the fire brigade to respond and manually extinguish the fire. If damage occurs to the Control Room Emergency Ventilation System, safe shutdown of the plant can be performed at the Auxiliary Shutdown Panel. Based on the above, this exemption does not present an undue risk to the health and safety of the public.

3. The requested exemption is consistent with the common defense and security

To ensure that the common defense and security are not endangered, the exemption request must demonstrate that the loss or diversion of Special Nuclear Material (SNM) is precluded. The DBNPS has systems and processes in place that provide protection for the public from diversion of SNM that is licensed to be possessed on site. These systems and processes are those embodied in the "Davis-Besse Nuclear Power Station Physical Security Plan," the "Davis-Besse Nuclear Power Station Guard Training and Qualification Plan," and the "Davis-Besse Nuclear Power Station Safeguards Contingency Plan."

The request for exemption from the requirements of 10 CFR 50 Appendix R, Section III.G.3, does not affect the systems and processes discussed above. Therefore, this exemption does not affect the common defense or security.

4. Special circumstances are present

10 CFR 50.12(a)(2) states that the NRC will not consider granting an exemption to the regulations unless special circumstances are present. The requested exemption meets the special circumstances of 10 CFR 50(a)(2)(ii), in that the application of these regulations in this circumstance is not necessary to achieve the underlying purpose of the regulations.

The underlying purpose of Appendix R, Section III.G, is to provide features capable of limiting fire damage so that: (1) One train of systems necessary to achieve and maintain hot shutdown conditions from either the control room or emergency control station(s) is free of fire damage; and (2) Systems necessary to achieve and maintain cold shutdown from either the control room or emergency control station(s) can be repaired within 72 hours. The installed detection system will alert the Control Room operators to summon the fire brigade to respond and manually extinguish the fire. If damage occurs to the Control Room Emergency Ventilation System, safe shutdown of the plant can be performed at the Auxiliary Shutdown Panel. Therefore, the FENOC concludes that the existing means of fire propagation control, fire detection and suppression, and alternate shutdown provided for Fire Area HH constitute adequate fire protection and achieves the underlying purpose of Appendix R, Section III.G.3.

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#### **REFERENCES**

1. Davis-Besse letter Serial number 1255, dated March 6, 1986.
2. Davis-Besse letter Serial number 1327, dated January 12, 1987.
3. NRC letter dated April 18, 1990 (Davis-Besse letter Log number 3219), "Exemption to 10 CFR Part 50, Appendix R, Sections III.G & III.J (TAC No. 60995)."
4. NRC Generic Letter 86-10, "Implementation of Fire Protection Requirements," April 24, 1986.

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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 Manager – Regulatory Affairs (419-321-8450) at the DBNPS of any questions regarding this document or associated regulatory commitments.

**COMMITMENTS**

None

**DUE DATE**

N/A