

April 17, 2008

Mr. Peter P. Sena III
Site Vice President
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Mail Stop A-BV-SEB-1
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SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE
BEAVER VALLEY POWER STATION, UNITS 1 AND 2, LICENSE RENEWAL
APPLICATION (TAC NOS. MD6593 AND MD6594)

Dear Mr. Sena:

By letter dated August 27, 2007, FirstEnergy Nuclear Operating Company submitted an application pursuant to 10 CFR Part 54, to renew the operating licenses for Beaver Valley Power Station, Units 1 and 2, for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review. Further requests for additional information may be issued in the future.

Items in the enclosure were discussed with Mr. Cliff Custer of your staff, and a mutually agreeable date for the response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-2989 or via e-mail at klh1@nrc.gov.

Sincerely,

/RA/

Kent L. Howard, Sr., Project Manager
Projects Branch 2
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-334 and 50-412

Enclosure:
Request for Additional Information

cc w/encl: See next page

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Dear Mr. Sena:

By letter dated August 27, 2007, FirstEnergy Nuclear Operating Company submitted an application pursuant to 10 CFR Part 54, to renew the operating licenses for Beaver Valley Power Station, Units 1 and 2, for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review. Further requests for additional information may be issued in the future.

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BEAVER VALLEY POWER STATION, UNITS 1 AND 2
LICENSE RENEWAL APPLICATION
REQUEST FOR ADDITIONAL INFORMATION, SECTION 2.3.3.18

Section 2.3.3.18

The staff reviewed the Beaver Valley Power Station, Units 1 and 2 (BVPS) license renewal application (LRA), updated final safety analysis report (UFSAR), Section 9.5.1, "Fire Protection System," and following fire protection current licensing basis documents listed in the BVPS Units 1 and 2 Operating License Condition 2.C.5 and 2.F respectively:

Nuclear Regulatory Commission (NRC) Fire Protection Safety Evaluation Reports – BVPS Unit 1: Amendment No. 18 to the Beaver Valley Power Station Unit No. 1, Operating License DPR 66. Updated Fire Protection Appendix R Review Report for BVPS Unit 1.

NRC Fire Protection Safety Evaluation Reports- BVPS Unit 2:
NUREG- 1057, October 1985 and Supplements 1 through 6.

The staff has identified that fire protection systems and components discussed in the following sections have been excluded from the scope of license renewal and an aging management review (AMR). These systems and components were not included in the license renewal boundaries and appear to have fire protection intended functions required for compliance with Title 10 of the *Code of Federal Regulations* (CFR) 50.48, "Fire protection," as stated in 10 CFR 54.4. Therefore, in order to complete our review, the staff requires responses to the following request for additional information.

RAI 2.3.3.18-1

The following LRA drawings show fire protection system components as out of scope:

LRA drawing 1-33-1 Rev. 4 shows the following fire protection system's components out of scope (i.e., not colored in red):

- Fuel transfer pump and associated components
- 475 gallon hydro pneumatic tank FP-TK-1

LRA drawing 1-33-3 Rev. 4 shows the following fire protection system's components out of scope (i.e., not colored in red):

- Carbon dioxide (CO₂) refrigeration system
- CO₂ purge system

ENCLOSURE

LRA drawing 1-33-4 Rev. 4 shows the following fire protection system's components out of scope (i.e., not colored in red):

- Electrical equipment room and diesel generator room CO₂ fire suppression system
- Halon 1301 fire suppression system

LRA drawing 1-33-7 Rev. 4 shows the following fire protection system's components out of scope (i.e., not colored in red):

- North east and south west turbine building fire suppression system
- Relay building fire suppression system

LRA drawing 2-33-1F Rev. 5 shows the following fire protection system's components out of scope (i.e., not colored in red):

- Deluge system for Transformers TR-2, TR-2A, TR-2B, TR-2C, and TR-2D
- Turbine building fire suppression systems
- Decontamination building fire suppression systems

The staff requests that the applicant verify whether the above systems and components are in the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If these systems and components are excluded from the scope of license renewal and not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3.3.18-2

Section 9.10.2 of the BVPS Unit 1 USFAR, Rev. 22 Interim Issue 3, discusses various types of fire water suppression systems provided in the plant areas for fire suppression activities. The fire suppression systems in various areas are:

- Turbine room under floors
- Turbine building auxiliary bay
- Turbine oil room
- Chemistry laboratory
- Auxiliary feedwater pump area
- Residual heat removal pump area
- Redundant cable penetrations area
- Reactor plant component cooling water pump area

The staff requests that the applicant verify whether the above fire water suppression systems installed in various areas of the plant are in the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are excluded from the scope of license renewal and not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3.3.18-3

Section 9.10.2 of the BVPS Unit 1 USFAR, Rev. 22 Interim Issue 3, discuss CO₂ systems provided in the plant areas for fire suppression activities. The CO₂ systems in various areas are:

- Cable vault areas
- Cable tray mezzanine area
- Diesel generator rooms

The staff requests that the applicant verify whether the above CO₂ systems installed in various areas of the plant are in the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are excluded from the scope of license renewal and not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3.3.18-4

Section 9.10.2 of the BVPS Unit 1 USFAR, Rev. 22 Interim Issue 3, discusses Halon fire suppression systems for the primary process rack area and cable tunnel. The Halon 1301 systems do not appear in LRA Section 2.3.3.18 as being within the scope of the license renewal and subject to an AMR. The staff requests that the applicant verify whether the above Halon 1301 systems are within the scope of license renewal in accordance with

10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are excluded from the scope of license renewal and are not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3.3.18-5

Section 9.5.1.5 of the NUREG-1057, Safety Evaluation Report Related to the Operation Related to the Operation of Beaver Valley Power Station Unit 2, dated October 1985, discusses the jockey pump that maintains the fire water system pressure. The jockey pump and associated components do not appear in LRA Section 2.3.3.18 as being within the scope of the license renewal and subject to an AMR. The staff requests that the applicant verify whether the jockey pump and components are within the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If the jockey pump and components are excluded from the scope of license renewal and not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3.3.18-6

Section 9.5.1.5 of the BVPS Unit 2 SER (NUREG-1057) dated October 1985, and Section 9.5.1.7.3 of the UFSAR Rev. 2 Interim Issue 2 discuss various types of fire water suppression systems provided in the plant areas for fire suppression activities. The fire suppression systems in various areas are:

- water spray system for condensate polishing building charcoal filter
- water spray system for fuel and decontamination building charcoal filter
- water spray system for auxiliary building general area
- deluge water spray systems for reactor containment areas (charcoal filter banks, residual heat removal pumps, and orange purple cable penetrations area)
- automatic water deluge spray system for south safeguards area auxiliary feedwater pump room
- wet pipe sprinkler system for turbine building (under operating and mezzanine floors)
- automatic water spray deluge water curtain at the entrance to the condensate polishing pipe tunnel
- deluge system for turbine oil reservoir and coolers
- automatic water spray deluge system for hydrogen seal oil unit
- sprinkler system for auxiliary boiler area
- dry pipe sprinkler system for SOSB railway bay

The staff requests that the applicant verify whether the above fire water suppression systems installed in various areas of the plant are in the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are excluded from the scope of license renewal and not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3.3.18-7

Section 9.5.1.5 of the BVPS Unit 2 SER (NUREG-1057) dated October 1985, and Section 9.5.1.7.4 of the UFSAR Rev. 2 Interim Issue 2 discuss the total flooding Halon 1301 suppression systems for the computer and west communications room. The total flooding Halon 1301 suppression systems do not appear in LRA Section 2.3.3.18 as being within the scope of the license renewal and subject to an AMR. The staff requests that the applicant verify whether the total flooding Halon 1301 suppression systems and components are within the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If the total flooding Halon 1301 suppression systems and components are excluded from the scope of license renewal and not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3.3.18-8

Section 9.5.1.5 of the BVPS Unit 2 SER (NUREG-1057) dated October 1985, and Section 9.5.1.7.5 of the UFSAR Rev. 2 Interim Issue 2 discuss the total flooding CO₂ systems provided in the plant areas for fire suppression activities. The CO₂ systems in various areas are:

- control building instrument and relay room
- cable spreading room
- cable tunnel
- cable vault/rod control building (EI 735'-6" and EI 755'-6")
- orange diesel generator room, purple diesel generator room
- cable vault relay room
- service building cable tray area
- turbine generator

The staff requests that the applicant verify whether the above CO₂ systems installed in various areas of the plant are in the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are excluded from the scope of license renewal and not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3.3.18-9

Section 9.5.1.5 of the BVPS Unit 2 SER (NUREG-1057) dated October 1985, and Section 9.5.1.8.5 of the UFSAR Rev.2 Interim Issue 2 discuss standpipe hose stations for emergency switchgear rooms. The standpipe hose stations for switchgear rooms do not appear in LRA Section 2.3.3.18 as being within the scope of the license renewal and subject to an AMR. The staff requests that the applicant verify whether the standpipe hose stations for switchgear rooms are within the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If the standpipe hose stations are excluded from the scope of license renewal and not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

RAI 2.3.3.18-10

LRA Tables 2.3.3-18 and 3.3.2-18 exclude several types of fire protection components that appear on the LRA drawings as within the scope of license renewal (i.e., highlighted in red). These components are listed below:

- hose connections
- interior fire hose stations
- pipe supports
- couplings
- threaded connections
- restricting orifices
- interface flanges

- chamber housings
- heat-actuated devices
- tank heaters
- thermowells
- water motor alarms
- filter housing
- gear box housing
- heater housing
- turbocharger housing
- latch door pull box
- pneumatic actuators
- actuator housing
- dikes for oil spill confinement
- buried underground fuel oil tanks for emergency diesel generators
- fire water main loop valves
- post indicator valves
- jacket cooling water keepwarm pump and heater
- lubricating oil cooler
- auxiliary lubricating oil makeup tank
- rocker lubricating oil pump
- floor drains and curbs for fire-fighting water
- backflow prevention devices
- flame retardant coating for cables
- fire retardant coating for structural steel supporting walls and ceilings

For each, determine whether the component should be included in Tables 2.3.3-18 and 3.3.2-18 as component types subject to an AMR; and if not, justify the exclusion.

RAI 2.3.3.18-11

LRA Section 2.3.3.18 discusses requirements for the fire water supply system but does not mention trash racks and traveling screens for the fire pump suction water supply. Trash racks and traveling screens are located upstream of the fire pump suction to remove any major debris from the fresh or raw water supply. Trash racks and traveling screens are necessary to remove debris from and prevent clogging of the fire protection water supply system. Trash racks and traveling screens are typically considered to be passive, long-lived components. Both trash racks and traveling screens are located in a fresh or raw water/air environment and are typically constructed of carbon steel. Carbon steel in a fresh or raw water environment or water/air environment is subject to loss of material, pitting, crevice formation, and microbiologically influenced corrosion, and fouling. The staff requests that the applicant explain the apparent exclusion of the trash racks and traveling screens that are located upstream of the fire pump suction from the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1).

Letter to P. Sena from K. Howard, dated April 17, 2008

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Units 1 and 2

- 2 -

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