



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

October 28, 2009

Mr. Barry S. Allen  
Site Vice President  
FirstEnergy Nuclear Operating Company  
Davis-Besse Nuclear Power Station  
Mail Stop A-DB-3080  
5501 North State Route 2  
Oak Harbor, OH 43449-9760

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1 - REQUEST FOR ADDITIONAL INFORMATION RELATED TO A LICENSE AMENDMENT REQUEST TO EXCLUDE THE SOURCE RANGE NEUTRON FLUX INSTRUMENT CHANNEL PREAMPLIFIER FROM THE CHANNEL CALIBRATION REQUIREMENTS OF TECHNICAL SPECIFICATION 3.3.9, "NUCLEAR INSTRUMENTATION" (TAC NO. ME1405)

Dear Mr. Allen:

By letter to the Nuclear Regulatory Commission (NRC) dated June 2, 2009 (Agencywide Documents Access and Management System Accession No. ML091550028), FirstEnergy Nuclear Operating Company submitted a request to exclude the source range neutron flux instrument channel preamplifier from the CHANNEL CALIBRATION requirements of Technical Specification 3.3.9, "Nuclear Instrumentation," for the Davis-Besse Nuclear Power Station, Unit No. 1.

The NRC staff is reviewing your submittal and has determined that additional information is required to complete the review. The specific information requested is addressed in the enclosure to this letter. During a discussion with your staff on October 27, 2009, it was agreed that you would provide a response within 45 days from the date of this letter.

The NRC staff considers that timely responses to requests for additional information help ensure sufficient time is available for staff review and contribute toward the NRC's goal of efficient and effective use of staff resources. If circumstances result in the need to revise the requested response date, please contact me at (301) 415-3154.

Sincerely,

A handwritten signature in black ink that reads "Stephen P. Sands FOR".

Stephen P. Sands, Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-346

Enclosure:  
Request for Additional Information

cc w/encl: Distribution via Listserv

## REQUEST FOR ADDITIONAL INFORMATION

### DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

#### DOCKET NO. 50-346

In reviewing the FirstEnergy Nuclear Operating Company's submittal dated June 2, 2009 (Agencywide Documents Access and Management System Accession No. ML091550028), related to the license amendment request to exclude the source range neutron flux instrument channel preamplifier from the CHANNEL CALIBRATION requirements of Technical Specification 3.3.9, "Nuclear Instrumentation," for the Davis-Besse Nuclear Power Station, Unit No. 1, the U.S. Nuclear Regulatory Commission staff has determined that the following information is needed in order to complete its review:

#### Regulatory Basis

1. In Title 10, Section 50.36, "Technical specifications," of the *Code of Federal Regulations* (10 CFR 50.36), the NRC requires that "each applicant for a license authorizing operation of a production or utilization facility shall include in his application proposed technical specifications in accordance with the requirements of this section." Specifically, 10 CFR 50.36(c)(3) states, "Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."
2. General Design Criterion (GDC) 13, "Instrumentation and Control," of Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," requires that instrumentation be provided to monitor variables and systems and that controls be provided to maintain these variables and systems within prescribed operating ranges.

#### Technical Questions:

1. The licensee stated, "The need for the proposed amendment is based, in part, on the instrument channel design and location of the preamplifier, which do not provide a practical means of introducing a test signal upstream of the preamplifier for use in the performance of a CHANNEL CLIBRATION."

Provide physical details of the preamplifier and explain why a test signal can not be introduced upstream of the preamplifier, especially during refueling outages, and why modifications can not be performed to facilitate the channel calibration test with the preamplifier included in the source range neutron flux instrumentation system.

2. The licensee also stated, "The component is tested prior to its installation."

Provide details of tests performed prior to installation and the basis for the determination that subsequent testing is not required to assure the operation of the preamplifier. If the justification is based on vendor recommendation, then provide the documentation to support it.

3. The licensee stated, "Instrument cables and connector problems are known to induce noise or spiking in the instrument channels. Since this testing involves disconnection and reconnection of cables, the potential for these problems is created."

Provide information on which this statement is based, especially if suitable test devices are used for the testing.

4. In order for the NRC staff to determine the basis that the preamplifier will not drift for the life of the preamplifier, provide information on when the preamplifiers were first installed, when replaced, when calibrated, and the drifts observed during each calibration.

5. The licensee stated, "A malfunction of the preamplifier would be evident during normal operation by observing the channel response and indication while the instrument channel is in service. Performance of intrusive testing of the preamplifier would provide minimal benefit at the risk of introducing noise or a high resistance connection at the preamplifier connectors." Explain how channel response and indication during channel checks will provide the information that can be obtained during channel calibration tests with the preamplifier included in the source range neutron flux instrumentation system.

Mr. Barry S. Allen  
Site Vice President  
FirstEnergy Nuclear Operating Company  
Davis-Besse Nuclear Power Station  
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Sincerely,  
**/RA by M. Mahoney for S. Sands/**  
Stephen P. Sands, Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

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