

July 5, 2006

Mr. Mark A. Bezilla
Vice President-Nuclear, Davis-Besse
FirstEnergy Nuclear Operating Company
Davis-Besse Nuclear Power Station
5501 North State Route 2
Oak Harbor, OH 43449-97960

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1 - RESPONSE TO
GENERIC LETTER 2004-01, "REQUIREMENTS FOR STEAM GENERATOR
TUBE INSPECTIONS" (TAC NO. MC4816)

Dear Mr. Bezilla:

On August 30, 2004, the Nuclear Regulatory Commission (NRC) issued Generic Letter (GL) 2004-01, "Requirements For Steam Generator Tube Inspections." The purpose of GL 2004-01 was to obtain information that would enable the NRC staff to determine whether licensees' steam generator (SG) tube inspection programs comply with the existing tube inspection requirements (the plant technical specifications in conjunction with Appendix B to Title 10 of the *Code of Federal Regulations* Part 50).

By letter dated October 29, 2004, as supplemented by letter dated July 26, 2005, you responded to GL 2004-01 for Davis-Besse Nuclear Power Station, Unit 1 (DBNPS). The NRC staff's review of your response to the GL did not identify any concerns with the inspection practices employed at DBNPS. The NRC staff, therefore, concludes that your SG tube inspection practices are in compliance with the existing tube inspection requirements.

The NRC staff's evaluation is enclosed. If you have any questions regarding this matter, please contact me at (301) 415-1486.

Sincerely,

/RA/

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

Docket No. 50-346

Enclosure: As stated

cc: See next page

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EVALUATION OF THE RESPONSE TO GL 2004-01
FIRSTENERGY NUCLEAR OPERATING COMPANY
DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1
DOCKET NO. 50-346

On August 30, 2004, the Nuclear Regulatory Commission (NRC) issued Generic Letter (GL) 2004-01, "Requirements For Steam Generator Tube Inspections," (Agencywide Documents Access and Management System (ADAMS) Accession No. ML042370766). The purpose of GL 2004-01 was to obtain information that would enable the NRC staff to determine whether licensees' steam generator tube inspection programs comply with the existing tube inspection requirements (the plant technical specifications) in conjunction with Appendix B to Title 10 of the *Code of Federal Regulations* Part 50.

By letter dated October 29, 2004 (ADAMS Accession No. ML043070391), as supplemented by letter dated July 26, 2005 (ADAMS Accession No. ML052090243), FirstEnergy Nuclear Operating Company (FirstEnergy), the licensee for Davis-Besse Nuclear Power Station, Unit 1 submitted a response to GL 2004-01. The NRC staff has concluded that FirstEnergy steam generator tube inspection practices are in compliance with the existing tube inspection requirements; however, the NRC staff has the following observations regarding the tube inspection practices in the lower tubesheet (LTS) region.

A portion of the LTS is referred to as the sludge pile or kidney region. Although the NRC staff could not identify a uniform, quantitative definition of this region in terms of the radial extent (minimum sludge height and/or dent voltage) or axial extent above and below the top of the LTS, it is generally defined by the four Babcock and Wilcox (B&W) units with Alloy 600 tubing as the area bounded by dents and sludge at the LTS secondary face. The definition does not include the tube ends, the roll expanded region, or the roll transition which are addressed by separate inspections.

Based on industry operating experience (from the four currently operating B&W units with Alloy 600 tubing), the sludge pile or kidney region is susceptible to intergranular attack (IGA) and stress corrosion cracking (SCC). IGA and axially-oriented SCC have been detected both above and below the top of the LTS at non-dented locations. In addition, IGA and circumferentially-oriented SCC have been detected at dented locations in the sludge pile or kidney region.

With respect to dented locations in the LTS region, the NRC staff notes that FirstEnergy performed separate inspections of these locations on a sampling basis with a rotating probe (i.e., FirstEnergy specified separate inspections for the dented locations within the LTS region). The NRC staff concludes that the examination of the dented locations in the LTS region are in compliance with the existing tube inspection requirements.

ENCLOSURE

The NRC staff recognizes that FirstEnergy concluded (based on site-specific qualification) that the bobbin techniques may be used for detecting SCC and IGA in the sludge pile or kidney region. Based on the information FirstEnergy provided in its submittals regarding the site-specific inspection qualification, the NRC staff could not conclude for non-dented locations that the bobbin coil technique is effective at finding the forms of degradation that could occur within the kidney or sludge pile region. The NRC staff understands that FirstEnergy recognizes the potential for the bobbin coil site-specific validation may change over time. As a result, FirstEnergy performed additional +Point™ probe examinations in this region that meet industry sampling requirements for a non-active degradation mechanism. Historically, these rotating probe examinations have indicated that the bobbin coil has not missed any degradation at the non-dented locations in this region of the tube bundle. Based on the rotating probe inspections and the results of these inspections, the NRC staff concludes that FirstEnergy's inspection practices at the non-dented locations within the LTS region are in compliance with the existing tube inspection requirements.

Principal Contributors: P. Klein
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Date: July 5, 2006

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