



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

June 15, 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 RELIEF REQUESTS FOR ALTERNATIVE DISSIMILAR METAL WELD REPAIR METHODS FOR REACTOR VESSEL NOZZLES, REACTOR COOLANT PUMP NOZZLES, AND REACTOR COOLANT PIPING (RR-A32 AND RR-A33) (TAC NOS. ME0477 AND ME0478)

Dear Mr. Allen:

By letter to the Nuclear Regulatory Commission (NRC) dated January 30, 2009 (Agencywide Documents Access and Management System Accession No. ML090350070), FirstEnergy Nuclear Operating Company submitted two relief requests for proposed alternatives to certain requirements associated with reactor vessel nozzle, reactor coolant pump nozzle, and reactor coolant piping weld repairs, 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 June 12, 2009, it was agreed that you would provide a response within 30 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) 415-4037.

Sincerely,

A handwritten signature in cursive script, appearing to read "C. Goodwin".

Cameron S. Goodwin, 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 January 30, 2009, related to relief requests RR-A32 and RR-A33 to install the optimized weld overlay (OWOL) or the full structural weld overlay (FSWOL) on reactor coolant pump (RCP) nozzles, core flood nozzles, and cold-leg drain nozzles, for the Davis-Besse Nuclear Power Station, Unit No. 1 (DBNPS), the Nuclear Regulatory Commission (NRC) staff has determined that the following information is needed in order to complete its review:

REQUEST RR-A32

1.1 Please provide following information for the staff to perform an independent analysis of the overlaid RCP nozzles:

- a. Dimensions (axial and diameter) of the RCP inlet and discharge nozzles, dissimilar metal welds (DMW), butter, pipe elbow, safe end and stainless steel weld at the RCP discharge nozzles, and pipe cladding. The drawing should include bevel and weld land details.
- b. Geometry, material properties, locations, and process steps of repairs made, if any, in the Alloy 82/182 DMW, the adjacent nozzle, or safe end, prior to weld overlay installation.
- c. OWOL geometry such as thickness and length (if unavailable at this time, provide recommended/design overlay geometry).
- d. FSWOL geometry (thickness and length) on the RCP nozzles as discussed in Relief Request RR-A33.
- e. Materials and material properties to be used (full stress-strain curves used in residual stress analysis if possible; yield and ultimate strengths for each material are needed at a minimum).
- f. Sequencing of welding, cladding or buttering and heat treatment of original Alloy 82/182 DMWs and safe ends, including assumed root pass grind-out and re-weld.
- g. Weld overlay pass direction and sequence for the OWOL (1 weld head vs. multiple weld heads, sequence of weld passes, and direction of the weld pass).
- h. Weld overlay materials, including extent and thickness of stainless steel buffer layer if any.
- i. Weld pass energy input (voltage, current, arc efficiency, and weld pass speed).
- j. Weld inter-pass cooling temperature.

ENCLOSURE

- k. Convective heat transfer coefficient used for outside diameter and inside diameter surfaces.
- l. In-process stress relieving heat treatment parameters.

REQUEST RR-33A

- 2.1
 - a. Provide dimensions (axial and diameter) of the nozzles, DMWs, butter, pipe/elbow, safe end, and pipe cladding for the core flood nozzles and cold-leg drain line nozzles.
 - b. In the design drawing please show whether stainless steel buffer layer will be installed.

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/RA/

Cameron S. Goodwin, Project Manager
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