



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

November 29, 2010

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 1 - ENVIRONMENTAL
ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT
(TAC NO. ME1128)

Dear Mr. Allen:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for exemption from specific requirements of Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.61 and Appendix G for the Davis-Besse Nuclear Power Station, Unit 1, dated April 15, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML091130228), as supplemented by letters dated December 18, 2009 (ADAMS Accession No. ML093570103), August 26, 2010 (ADAMS Accession No. ML102440105), and October 8, 2010 (ADAMS Accession No. ML102861221).

The proposed exemption would revise certain reactor pressure vessel material unirradiated properties using Framatome Advanced Nuclear Power Topical Report BAW-2308, Revisions 1-A and 2-A, "Initial RTNDT of Linde 80 Weld Materials."

The Environment Assessment and Finding of No Significant Impact is being forwarded to the Office of the Federal Register for publication.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Mahoney", written over a horizontal line.

Michael Mahoney, Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-346

Enclosure:
Environmental Assessment

cc w/encl: Distribution via Listserv

UNITED STATES NUCLEAR REGULATORY COMMISSIONFIRSTENERGY NUCLEAR OPERATING COMPANYDOCKET NO. 50-346DAVIS-BESSE NUCLEAR POWER STATIONENVIRONMENTAL ASSESSMENT AND FINDING OFNO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an Exemption, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.12, "Specific Exemptions," from 10 CFR 50.61, "Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock Events" and from 10 CFR Part 50, Appendix G, "Fracture Toughness Requirements" for Facility Operating License No. NPF-3, issued to FirstEnergy Nuclear Operating Company (FENOC, the licensee), for operation of the Davis-Besse Nuclear Power Station, Unit 1 (DBNPS), located in Ottawa County, Ohio. In accordance with 10 CFR 51.21, the NRC performed an environmental assessment documenting its findings. The NRC concluded that the proposed actions will have no significant environmental impact.

ENVIRONMENTAL ASSESSMENTIdentification of the Proposed Action:

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix G requires that fracture toughness requirements for ferritic materials of pressure-retaining components of the reactor coolant pressure boundary of light-water nuclear power reactors provide adequate margins of safety during any condition of normal operation, including anticipated operational occurrences and system hydrostatic tests, to which the pressure boundary may be subjected over its service lifetime, Section 50.61 provides fracture toughness requirements for protection

against pressurized thermal shock (PTS) events. By letter dated April 15, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML091130228), as supplemented by letter dated December 18, 2009 (ADAMS Accession No. ML093570103), and October 8, 2010 (ADAMS Accession No. ML102861221), FENOC proposed exemptions from the requirements of 10 CFR Part 50, Appendix G and 10 CFR 50.61, to revise certain DBNPS reactor pressure vessel (RPV) initial (unirradiated) properties using Framatome Advanced Nuclear Power Topical Report BAW-2308, Revisions 1-A and 2-A, "Initial RT_{NDT} of Linde 80 Weld Materials."

The licensee requested an exemption from Appendix G to 10 CFR Part 50 to replace the required use of the existing Charpy V-notch (C_v) and drop weight-based methodology and allow the use of an alternate methodology to incorporate the use of fracture toughness test data for evaluating the integrity of the DBNPS RPV circumferential beltline welds based on the use of the 1997 and 2002 editions of American Society for Testing and Materials (ASTM) Standard Test Method E 1921, "Standard Test Method for Determination of Reference Temperature T_0 , for Ferritic Steels in the Transition Range," and American Society for Mechanical Engineering Boiler and Pressure Vessel Code (ASME B&PV Code), Code Case N-629, "Use of Fracture Toughness Test Data to establish Reference Temperature for Pressure Retaining materials of Section III, Division 1, Class 1." The exemption is required since Appendix G to 10 CFR Part 50, through reference to Appendix G to Section XI of the ASME Code pursuant to 10 CFR 50.55(a), requires the use of a methodology based on C_v and drop weight data.

The licensee also requested an exemption from 10 CFR 50.61 to use an alternate methodology to allow the use of fracture toughness test data for evaluating the integrity of the DBNPS RPV circumferential beltline welds based on the use of the 1997 and 2002 editions of ASTM E 1921 and ASME Code Case N-629. The exemption is required since the methodology

for evaluating RPV material fracture toughness in 10 CFR 50.61 requires the use of the C_v and drop weight data for establishing the PTS reference temperature (RT_{PTS}).

The proposed action is in accordance with the licensee's application dated April 15, 2009, as supplemented by letters dated December 18, 2009, August 26 and October 8, 2010.

The Need for the Proposed Action:

The proposed action is needed to allow the licensee to use an alternate method, as described in Topical Report BAW-2308, Revisions 1-A and 2-A, "Initial RT_{NDT} of Linde 80 Weld Materials" for determining the initial, unirradiated material reference temperatures of the Linde 80 weld materials present in the beltline region of the DBNPS RPV. This action, by being exempted from 10 CFR 50.61 would allow the licensee to revise its pressurized thermal shock reference temperature values in the future.

Environmental Impacts of the Proposed Action:

The NRC has completed its evaluation of the proposed exemption. The NRC staff has concluded that the proposed action to allow an alternate method for determining the initial, unirradiated material reference temperatures of the Linde 80 weld materials present in the beltline region of the DBNPS RPV would not significantly affect plant safety and would not have a significant adverse effect on the probability of an accident occurring. The proposed action would not result in an increased radiological hazard beyond those previously analyzed in the Final Safety Analysis Report for DBNPS.

The NRC staff's safety evaluation will be provided in the exemption that will be issued as part of the letter to the licensee approving the exemption to the regulation, if granted.

There will be no change to radioactive effluents that effect radiation exposures to plant workers and members of the public. The proposed action does not involve a change to plant buildings or land areas on the DBNPS site. Therefore, no changes or different types of radiological impacts are expected as a result of the proposed exemption.

The proposed action does not result in changes to land use or water use, or result in changes to the quality or quantity of non-radiological effluents. No changes to the National Pollution Discharge Elimination System permit are needed. No effects on the aquatic or terrestrial habitat in the vicinity of the plant, or to threatened, endangered, or protected species under the Endangered Species Act, or impacts to essential fish habitat covered by the Magnuson-Steven's Act are expected. There are no impacts to the air or ambient air quality.

There are no impacts to historical and cultural resources. There would be no impact to socioeconomic resources. Therefore, no changes to or different types of non-radiological environmental impacts are expected as a result of the proposed exemption.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action.

Environmental Impacts of the Alternatives to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the "no-action" alternative). Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the "no-action" alternative action are similar.

Alternative Use of Resources:

The action does not involve the use of any different resources than those previously considered in the Final Environmental Statement, NUREG-75/097, dated October 1975, for DBNPS.

Agencies and Persons Consulted:

In accordance with its stated policy, on October 22, 2010, the staff consulted with the Ohio State official, Ms. Carol O'Claire of the Ohio Emergency Management Agency, regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated April 15, 2009. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff by telephone at 1-800-397-4209 or 301-415-4737, or send an e-mail to pdr.resource@nrc.gov.

Dated at Rockville, Maryland, this 29th day of November 2010.

FOR THE NUCLEAR REGULATORY COMMISSION



Michael Mahoney, Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

November 29, 2010

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 1 - ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT (TAC NO. ME1128)

Dear Mr. Allen:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for exemption from specific requirements of Title 10 of the Code of Federal Regulations (10 CFR), Part 50, Section 50.61 and Appendix G for the Davis-Besse Nuclear Power Station, Unit 1, dated April 15, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML091130228), as supplemented by letters dated December 18, 2009 (ADAMS Accession No. ML093570103), August 26, 2010 (ADAMS Accession No. ML102440105), and October 8, 2010 (ADAMS Accession No. ML102861221).

The proposed exemption would revise certain reactor pressure vessel material unirradiated properties using Framatome Advanced Nuclear Power Topical Report BAW-2308, Revisions 1-A and 2-A, "Initial RTNDT of Linde 80 Weld Materials."

The Environment Assessment and Finding of No Significant Impact is being forwarded to the Office of the Federal Register for publication.

Sincerely,
/RA/
Michael Mahoney, Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-346
Enclosure:
Environmental Assessment
cc w/encl: Distribution via Listserv

DISTRIBUTION:

PUBLIC
LPLIII-2 R/F
RidsAcrsAcnw_MailCTR Resource
RidsNrrDirRerb Resource

RidsNrrDoriLpl3-2 Resource
RidsNrrLATHarris Resource
RidsNrrPMMahoney Resource
RidsOgcRp Resource
RidsRgn3MailCenter Resource

Letter (NRR-106) ML102950354 EA FRN (NRR-044) ML102950363

OFFICE	DORL/LPL3-2/PM	DORL/LPL2-3/LA	NRR/DLR/RERB/BC	OGC	DORL/LPL3-2/BC	DORL/LPL3-2/PM
NAME	MMahoney	THarris	Almboden	BHarris NLOW/cmts	RCarlson	MMahoney
DATE	10/19/10	11/ 22/10	11/1/10	11/9/10	11/19/10	11/29/10

OFFICIAL RECORD COPY