

May 18, 2007

Mr. David Lochbaum  
Director, Nuclear Safety Project  
Union of Concerned Scientists  
1707 H Street NW Suite 600  
Washington, DC 20006-3919

Dear Mr. Lochbaum:

Your petition dated April 30, 2007, addressed to the Executive Director for Operations at the Nuclear Regulatory Commission (NRC), has been referred to me pursuant to 10 CFR 2.206 of the Commission's regulations. In your petition, you requested the following actions:

1. Immediately Order the Davis-Besse reactor to shut down and remain shut down until the NRC completes an independent review of a recently submitted report (Exponent report), which was performed for Davis-Besse by Exponent Failure Analysis Associates and Altran Solutions Corporation (Exponent).
2. If the NRC's independent review determines that the small leak and fast corrosion rate scenario described in the FirstEnergy Nuclear Operating Company (FENOC)-submitted report is valid, immediately Order all pressurized water reactors (PWRs) in the United States to be shut down and remain shut down until the NRC approved either (a) an inspection scope and frequency based on the new scenario that provides protection against the Davis-Besse head damage or (b) an installed leak detection capability that would alert control room operators to small leakage from one or more CRDM nozzles so that repairs could occur prior to damage progressing to Davis-Besse depths.
3. If the NRC's independent review determines that FENOC has submitted yet another inaccurate report to the NRC, revoke the operating license for Davis-Besse.

As the basis for your request for immediate action on Item #1, you stated that an immediate shut down of Davis-Besse is warranted to protect public health and safety, whether the NRC determines that the fast corrosion rate scenario described by the Exponent report is valid or invalid.

I would like to express my appreciation for your effort in bringing these matters to the attention of the NRC.

In accordance with NRC Management Directive 8.11, a Petition Review Board (PRB) was assembled to review your request. The PRB met on May 2, 2007, to discuss your request for immediate action (Item #1 above). On May 3, 2007, you were notified by telephone that the PRB denied your request for immediate shutdown of the Davis-Besse reactor because the NRC staff had performed an assessment of the Exponent report (Agencywide Documents Access and Management System Accession No. ML071240254) and had concluded that the current

reactor pressure vessel (RPV) head inspection requirements are adequate to detect RPV head degradation issues before they result in significant corrosion.

Based on this NRC staff assessment of the Exponent report, and other actions taken by the NRC and the licensee, the NRC believes that no immediate safety concern exists at Davis-Besse. The NRC staff understands that the Exponent report assumes that a minimum 5 year period of crack growth is necessary to initiate the rapid erosion/corrosion rates implied by the report's hypothesized scenario. This scenario is based on the use of NRC-sponsored test results of the specific heat of material used in the affected vessel head penetration nozzle at Davis-Besse. The current NRC vessel head inspection requirements, imposed by the First Revised NRC Order EA-03-009, dated February 20, 2004, are designed to identify cracking in vessel head penetration nozzles before significant vessel head corrosion could occur.

It is important to also note that the Davis-Besse licensee replaced the reactor vessel head in 2004. Therefore, the head has been in service for only 3 years, which is significantly less than the time needed to initiate cracking of vessel head penetration nozzle surface, based on previous operational experience.

The NRC is confident that there is no immediate safety concern at Davis-Besse, and that the actions taken serve as a sound basis for denying Item #1 of your petition.

The PRB has not made initial determinations concerning Items #2 and #3 of your petition request. You will be contacted when those determinations have been made.

Sincerely,

***/RA by JWiggins for/***

J. E. Dyer, Director  
Office of Nuclear Reactor Regulation

Docket No. 50-346

cc: Mark B. Bezilla (with incoming)  
Site Vice President  
FirstEnergy Nuclear Operating Company  
Mail Stop A-DB-3080  
5501 North State, Route 2  
Oak Harbor, OH 43449-9760

See next page

reactor pressure vessel (RPV) head inspection requirements are adequate to detect RPV head degradation issues before they result in significant corrosion.

Based on this NRC staff assessment of the Exponent report, and other actions taken by the NRC and the licensee, the NRC believes that no immediate safety concern exists at Davis-Besse. The NRC staff understands that the Exponent report assumes that a minimum 5 year period of crack growth is necessary to initiate the rapid erosion/corrosion rates implied by the report's hypothesized scenario. This scenario is based on the use of NRC-sponsored test results of the specific heat of material used in the affected vessel head penetration nozzle at Davis-Besse. The current NRC vessel head inspection requirements, imposed by the First Revised NRC Order EA-03-009, dated February 20, 2004, are designed to identify cracking in vessel head penetration nozzles before significant vessel head corrosion could occur.

It is important to also note that the Davis-Besse licensee replaced the reactor vessel head in 2004. Therefore, the head has been in service for only 3 years, which is significantly less than the time needed to initiate cracking of vessel head penetration nozzle surface, based on previous operational experience.

The NRC is confident that there is no immediate safety concern at Davis-Besse, and that the actions taken serve as a sound basis for denying Item #1 of your petition.

The PRB has not made initial determinations concerning Items #2 and #3 of your petition request. You will be contacted when those determinations have been made.

Sincerely,

***/RA by JWiggins for/***

J. E. Dyer, Director  
Office of Nuclear Reactor Regulation

Docket No. 50-346

cc: Mark B. Bezilla (with incoming)  
Site Vice President  
FirstEnergy Nuclear Operating Company  
Mail Stop A-DB-3080  
5501 North State, Route 2  
Oak Harbor, OH 43449-9760

See next page

**Distribution: G20070297**

PUBLIC	RidsNrrPMTWengert	RidsOgcMailCenter
LPL3-2 R/F	RidsNrrLAEWhitt	RidsEDOMailCenter
RidsNrrDorl	TMensah, NRR	RidsOpaMail
RidsNrrDorlLpl3-2	RidsAcrsAcnwMailCenter	RidsRgn3MailCenter
RidsNrrDpr	RidsNrrWpcMail	RidsNrrOd
RidsNrrDprPspb	RidsOgcRp	RidsOeMailCenter
RidsNrrAdro		

Package Accession No.: ML071300269 Incoming Accession No.: ML071210285

Acknowledgement letter: ML071300245

OFFICE	LPL3-2/PM	LPL3-2/LA	LPL3-2/BC	DPR/DD (A)	DORL/D (A)	NRR/D
NAME	TWengert	EWhitt BClayton for	RGibbs	JGolder	TMcGinty	JDyer JWiggins for
DATE	05/16/07	05/16/07	05/16/07	05/16/07	05/16/07	05/18/07

**OFFICIAL RECORD COPY**

Davis-Besse Nuclear Power Station, Unit 1

cc:

Manager, Site Regulatory Compliance  
FirstEnergy Nuclear Operating Company  
Davis-Besse Nuclear Power Station  
Mail Stop A-DB-3065  
5501 North State Route 2  
Oak Harbor, OH 43449-9760

Director, Ohio Department of Commerce  
Division of Industrial Compliance  
Bureau of Operations & Maintenance  
6606 Tussing Road  
P.O. Box 4009  
Reynoldsburg, OH 43068-9009

Regional Administrator, Region III  
U.S. Nuclear Regulatory Commission  
Suite 210  
2443 Warrenville Road  
Lisle, IL 60532-4352

Resident Inspector  
U.S. Nuclear Regulatory Commission  
5503 North State Route 2  
Oak Harbor, OH 43449-9760

Stephen Helmer  
Supervisor, Technical Support Section  
Bureau of Radiation Protection  
Ohio Department of Health  
35 East Chestnut Street, 7<sup>th</sup> Floor  
Columbus, OH 43215

Carol O'Claire, Chief, Radiological Branch  
Ohio Emergency Management Agency  
2855 West Dublin Granville Road  
Columbus, OH 43235-2206

Zack A. Clayton  
DERR  
Ohio Environmental Protection Agency  
P.O. Box 1049  
Columbus, OH 43266-0149

State of Ohio  
Public Utilities Commission  
180 East Broad Street  
Columbus, OH 43266-0573

Attorney General  
Office of Attorney General  
30 East Broad Street  
Columbus, OH 43216

President, Board of County  
Commissioners of Ottawa County  
Port Clinton, OH 43252

President, Board of County  
Commissioners of Lucas County  
One Government Center, Suite 800  
Toledo, OH 43604-6506

The Honorable Dennis J. Kucinich  
United States House of Representatives  
Washington, D.C. 20515

The Honorable Dennis J. Kucinich  
United States House of Representatives  
14400 Detroit Avenue  
Lakewood, OH 44107

Joseph J. Hagan  
President and Chief Nuclear Officer  
FirstEnergy Nuclear Operating Company  
Mail Stop A-GO-19  
76 South Main Street  
Akron, OH 44308

David W. Jenkins, Attorney  
FirstEnergy Corporation  
Mail Stop A-GO-18  
76 South Main Street  
Akron, OH 44308

Danny L. Pace  
Senior Vice President, Fleet Engineering  
FirstEnergy Nuclear Operating Company  
Mail Stop A-GO-14  
76 South Main Street  
Akron, OH 44308

Manager, Fleet Licensing  
FirstEnergy Nuclear Operating Company  
Mail Stop A-GO-2  
76 South Main Street  
Akron, OH 44308

Davis-Besse Nuclear Power Station, Unit 1

cc:

Director, Fleet Regulatory Affairs  
FirstEnergy Nuclear Operating Company  
Mail Stop A-GO-2  
76 South Main Street  
Akron, OH 44308

Jeannie M. Rinckel  
Vice President, Fleet Oversight  
FirstEnergy Nuclear Operating Company  
Mail Stop A-GO-14  
76 South Main Street  
Akron, OH 44308

Richard Anderson  
Vice President, Nuclear Support  
FirstEnergy Nuclear Operating Company  
Mail Stop A-GO-14  
76 South Main Street  
Akron, OH 44308

James H. Lash  
Senior Vice President of Operations  
and Chief Operating Officer  
FirstEnergy Nuclear Operating Company  
Mail Stop A-GO-14  
76 South Main Street  
Akron, OH 44308