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

June 3, 2016

Mr. Thomas Gurdziel
9 Twin Orchard Drive
Oswego, NY 13126

Dear Mr. Gurdziel:

This letter is in response to your petition dated February 19, 2016,[1] to Mr. Victor M. McCree, Executive Director for Operations, of the U.S. Nuclear Regulatory Commission (NRC), regarding a reactor trip at Davis-Besse Nuclear Power Station (Davis-Besse), Unit No. 1, which occurred on January 29, 2016 (Event No. 51696). Your petition was referred to the Office of Nuclear Reactor Regulation for review in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Section 2.206, "Requests for action under this subpart." The process for reviewing 2.206 petitions is contained in NRC Management Directive (MD) 8.11, "Review Process for 10 CFR 2.206 Petitions."[2]

As discussed in the event notification when the reactor trip occurred, Davis-Besse personnel were calibrating nuclear instrumentation for Channel 2 of the reactor protection system (RPS) with RPS Channel 1 in trip and RPS Channel 2 in bypass. A fuse blew on RPS Channel 4 which caused the reactor trip since two out of four RPS channels had a trip signal.

Your February 19, 2016, petition states that you are concerned "that the Davis-Besse site organization is back to their 2001 performance level." In your petition you make the following assertions:

- the licensee is unaware of its current plant conditions;
- the licensee's calibration of nuclear instrumentation when the RPS was in a "half-scram" condition is nonconservative and unacceptable; and
- the licensee caused the trip themselves when performing its channel calibration.

In a February 17, 2016,[3] email you stated that you "would expect that the complete calibration of channel 2 would finally require taking it out of Bypass and inserting a high value to prove that it would cause a channel trip." You further stated that this would "cause the plant to scram, and a blown fuse on another channel would not be needed."

In your February 19, 2016, petition, you requested that these concerns be reviewed pursuant to 10 CFR 2.206 and enforcement action be taken against the Davis-Besse control room operators

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[1] Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML16088A374 and ML16056A389.
[2] ADAMS Accession No. ML041770328.
[3] ADAMS Accession No. ML16061A125.

and higher level personnel on duty during the reactor trip, including the plant manager, site vice president, and all shift technical advisors. Specifically, you requested that the following enforcement actions be taken against these plant personnel:

- Prohibit them from plant duties for at least 30 days.
- Require them to take a refresher course on nuclear instrumentation, with a test required to pass.
- Require them to participate in a discussion, lasting at least 1 hour, on conservative and responsible decision making in plant operations.

On May 4, 2016, the NRC's Petition Review Board (PRB) met to make its initial recommendation on whether to accept or reject your petition for review using the criteria in MD 8.11. In making its recommendation, the PRB considered the information provided in your petition and the following documents:

- Your emails dated February 1,[4] February 17, and May 3, 2016;[5]
- NRC Event Notification Report No. 51696;
- Davis-Besse License Event Report 2016-001-00;[6] and
- NRC Inspection Report 05000346/2016001.[7]

The PRB's initial recommendation was that your request does not meet the criteria for review under 10 CFR 2.206 because your petition and emails fail to provide sufficient facts to support the petition, and the issues identified in the petition have been addressed by the NRC, as documented in Inspection Report 05000346/2016001. On May 12, 2016, the NRC staff informed you of the PRB's initial recommendation and you declined the opportunity to meet with the PRB. The PRB's final recommendation is that your petition does not meet the criteria for consideration under 10 CFR 2.206, because it fails to provide sufficient facts to support the petition and raises issues that have already been reviewed, evaluated, and resolved by the NRC. Therefore, the PRB has concluded that your petition meets the criteria for rejection in accordance with MD 8.11, Part III, C.1 and C.2.

Discussion

A detailed discussion of the NRC staff's review of the event is included in Section 4OA3.1 (pages 25–31) of Inspection Report 05000346/2016001. The inspection report states:

> On January 29, 2016, the licensee was performing normal periodic power range nuclear instrument calibration activities. Each of the four reactor RPS channels receives input from one of four separate and independent power range nuclear instruments. A manual bypass feature is provided on each RPS channel to remove that channel from the coincidence reactor trip logic in order to facilitate on line maintenance, such as periodic nuclear instrument calibration. The RPS design precludes bypassing more than one RPS channel at a time.

[4] ADAMS Accession No. ML16033A418.
[5] ADAMS Accession No. ML16126A063.
[6] ADAMS Accession No. ML16091A114.
[7] ADAMS Accession No. ML16118A435.

> Earlier in the current reactor operating cycle, the RCS [reactor coolant system] hot leg temperature detector for RPS Channel No. 1 failed, and the licensee was required to declare RPS Channel No. 1 inoperable. Plant TS [technical specifications] permit continued operation with one inoperable RPS channel indefinitely; however, TS Limiting Condition for Operation (LCO) 3.3.1, Condition A, required the licensee to place the channel into the trip or bypassed condition. Since replacement of the temperature detector can only be done with the unit in the cold shutdown condition, the licensee had been operating with RPS Channel No. 1 bypassed during most normal operating conditions. However, during maintenance conditions requiring any of the other three remaining RPS channels to be bypassed, the licensee was forced to place RPS Channel No. 1 into the trip condition in order to allow the manual bypass to be used elsewhere. This was the case on January 29, 2016, at the time of the event.
>
> At approximately 12:14 p.m., plant technicians completed calibration of the power range nuclear instrument for RPS Channel No. 1 (NI–6), and the channel was manually tripped by plant operators to set up conditions for calibrations on the remaining three power range nuclear instruments. From approximately 12:20 p.m. to 1:03 p.m., RPS Channel No. 3 was bypassed to support calibration of its associated power range nuclear instrument (NI–8). At approximately 1:09 p.m., plant operators restored RPS Channel No. 3 to normal operation and placed RPS Channel No. 2 into the bypass condition to support calibration of its associated power range nuclear instrument (NI–5). At approximately 1:21 p.m., a blown fuse associated with a power supply for RPS Channel No. 4 caused that channel to trip on the flux / Δ flux / flow protective function. With RPS Channel No. 1 already in the tripped condition to support the maintenance activities being performed, reactor trip coincidence logic was satisfied and a reactor trip ensued.

The TS also requires that nuclear instrumentation be periodically calibrated while the reactor is operating. Calibration is performed with the channel in bypass and, contrary to your assumption, the channel is not taken out of bypass to prove that a high signal would cause a channel trip. A reactor trip signal did not occur on the channel being calibrated at the time of the reactor trip. The NRC inspectors also did not identify any performance issues associated with actions of licensee personnel at the time of the event.

If you have any questions, please feel free to contact Blake Purnell at (301) 415-1380 or by email at Blake.Purnell@nrc.gov.

Sincerely,

Eric J. Benner, Deputy Director
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-346

cc: Mr. Brian D. Boles (w/copy of petition)
Site Vice President
FirstEnergy Nuclear Operating Company
Mail Stop A-DB-3080
5501 N. State Route 2
Oak Harbor, OH 43449-9760

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/RA/

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