

March 27, 2003

Dr. William D. Travers
Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Dr. Travers:

SUBJECT: SUPPLEMENT TO PETITION PURSUANT TO 10 C.F.R. §2.206
REQUESTING THE NUCLEAR REGULATORY COMMISSION REVOKE
FIRSTENERGY NUCLEAR OPERATING COMPANY'S LICENSE TO
OPERATE THE DAVIS-BESSE NUCLEAR POWER STATION.

Re: License NPF-3, Docket #050-00346.

Congressman Dennis J. Kucinich, hereby, supplements his petition pursuant to 10 C.F.R. §2.206 filed on February 2, 2002 with the following new information.

I. Why current NRC procedures are not adequate to address the concerns raised in the petition.

Since the discovery of the hole in the Davis-Besse reactor head, the NRC has instituted a number of procedures to investigate how and why the corrosion was allowed to proceed unheeded for such a long period of time, and to make sure that the problem is completely fixed before allowing FirstEnergy to restart the plant.¹ To this end the NRC has opened an investigation through the Office of Investigations to determine whether wrongdoing

¹ NRC has now made a preliminary safety significance determination of the cracking of the control rod drive tubes and the resulting corrosion damage, placing the finding in the "red" category meaning it has "high safety significance." See Preliminary Safety Significance determined For Reactor head Damage, NRC News, U.S. Nuclear

occurred in connection with the RPV head degradation and whether FirstEnergy deliberately misled the NRC when lobbying them to defer the inspection of the CRDM nozzles. The NRC has also committed FirstEnergy to a Confirmatory Action Letter, which requires FirstEnergy to determine the root cause for the extensive corrosion, repair the reactor head, and obtain NRC approval before restarting the plant. The NRC has also convened an 0350 panel to oversee the shutdown and restart of the plant.

While these procedures provide oversight of the problems with the reactor head, and the shutdown and restart process, none of them fully address the problems raised in this petition. The procedures instituted by the NRC concentrate on the corrosion of the reactor head, and seek to correct the causes of that corrosion. As FirstEnergy itself has identified, a major cause of this corrosion was a focus on production established by management, and a culture of placing a “less than an adequate” focus on nuclear safety. This leads to the question of what else may have been overlooked by the plant during the years that FirstEnergy admits to a less than adequate safety focus. The convened processes may not uncover other systems that may be similarly degraded, and that may contain hidden dangers of similar caliber to the hole discovered in the reactor head.

a. Electrical systems and cable trays

Currently, FirstEnergy is responsible for inspecting the plant to make sure that it meets NRC regulations and is safe to restart. The NRC, under the 0350 panel, will only perform spot inspections of the areas of the plant not connected to the corrosion of the reactor head. Petitioner is concerned that the containment building, which has been subjected to corrosive boric acid dust

sufficient to clog filters on the radiation monitors for an extended period of time, could lead to corrosion in the electrical system and cable trays. It is the understanding of the petitioner that the NRC may perform some walkdown inspections of the cable, but will not be performing full inspections of the entire electrical system and cable trays – especially in those areas that are not easily accessible to inspectors, but which may be readily accessible to airborne particles of boric acid. A culture of placing production concerns over safety concerns, combined with a long-term corrosive atmosphere could easily lead to a degradation of these important systems. The NRC's current inspection regime may not find these problems. A full licensing inspection and examination process will.

b. Safety systems must match the design basis of the plant

Currently, the NRC is not concerned with making sure that the Davis-Besse safety systems match the design and licensing bases of the plant. It is important for the safety system to match the design basis, because without a match, it is impossible for the NRC or for FirstEnergy to determine whether the reactor is operating safely.

The NRC and Davis-Besse have been concerned with correcting the safety culture at Davis-Besse and attempting to transform the culture into one that values a questioning and open attitude among plant personnel. The NRC has not, however, been concerned with ensuring that the safety systems that FirstEnergy is implementing at the Davis-Besse plant, match the as-built plan of that plant. Several problems with the design basis have been identified during the 0350 process, including finding that the plant has operated outside of its design basis since it was built

due to the paint used in the containment pump system. The NRC has not concentrated on ensuring that the training of personnel matches the licensing basis of the plant as they would have to do if they conducted a full licensing and examination process.

c. Leak Containment Issues

If Davis-Besse is allowed to start up without undergoing the full complement of tests mandated by an application for a new operating license, they will not be able to detect leaks as required by the NRC. Under 10 C.F.R. 50, Appendix A, Criterion 30, the NRC mandates that “Means shall be provided for detecting and, to the extent practical, identifying the location of the source of the reactor coolant leakage.” NRC’s regulatory guide implementing this regulation states that a plant should be able to detect a 1 gallon per minute leak within 1 hour.² Davis-Besse’s new leak detection system, will be unable to fulfill this goal.

Davis-Besse’s new leak detection system only monitors leakage for the reactor itself, it cannot detect pipe leakage for pipes connected to the reactor. In order to detect this sort of leakage, it must depend on containment radiation monitors. These monitors were designed at a time when the metal tubes containing the nuclear fuel allowed greater contamination of the coolant water. Thus, when any leakage occurred, the coolant water was more radioactive and set off radiation detectors much quicker. Now, the integrity of the metal tubes is much greater, and the coolant water is much less radioactive. This means that a greater amount of leakage is necessary before the alarms will be activated. In the manner that the radiation detectors are currently calibrated, it will take much longer than 1 hour to detect a 1 gallon per minute leak.

Some plants have found that it can take anywhere from 8 to 800 hours to detect a small leak using current radiation monitors.

The impracticality of such a protracted detection interval is underscored by the Davis-Besse technical specification action statement on leakage which requires the reactor to be shut down within 6 hours. Taking up to 800 hours to detect a hazardous condition that warrants a shut down within 6 hours is clearly unacceptable.

Under the current inspection regime, the NRC may allow Davis-Besse to re-start even though it does not meet the NRC's regulation and implementing guides. If the NRC revoked FirstEnergy's license and forced them to apply for a new one, this problem, and others like it, would be thoroughly examined and rectified.

d. 0350 process will end before all problems identified will be corrected

The 0350 process is designed to terminate at some point after Davis-Besse is allowed to restart and the NRC will then revert to normal monitoring of the plant via the Reactor Oversight Process. The NRC's Lessons Learned Task Force identified 51 recommendations to NRC processes, including the Reactor Oversight Process, as a result of its over 7000 man-hour investigation into what went wrong at Davis-Besse. The NRC senior management accepted 49 of the 51 recommendations. There is no recommendation, however, let alone a mechanism allowing for public involvement, to ensure that the recommendations related to the Reactor Oversight Process are implemented before the 0350 panel ends.³

² See NRC Regulatory Guide 1.45

³ Transcript of NRC Public Meeting on Davis-Besse conducted on February 11, 2003, in Port Clinton, Ohio, page 43, lines 2 through 10.

This petition affords the public the only opportunity to ensure that Davis-Besse meets or exceeds minimum safety standards when operating. Absent the petition, Davis-Besse will restart with oversight provided by the 0350 panel and then, at some point, be allowed to return to the normal Reactor Oversight Process. This process, however, may still be impaired by problems identified by the NRC's Lessons Learned Task Force, but not yet fixed.

e. Licensing process is more transparent, allowing for outside oversight.

One of the NRC's principles of good regulation is openness. Revoking FirstEnergy's license to operate Davis-Besse and forcing them to apply for a new one will allow for a more transparent regulatory process and, therefore, will build public confidence in the safe operation of the Davis-Besse plant. The licensing process allows for intervenors to participate in the licensing decision by allowing them to conduct discovery and perform cross-examination – a process that the 0350 panel does not allow.

Forcing Davis-Besse to undergo a full licensing procedure is the only process that will allow for the kind of public participation that is demanded when a lack of safety culture allows a problem of such high safety significance to arise.

f. Office of Investigations [“OI”] findings must be complete before considering this petition.

The NRC is currently conducting an OI investigation into whether wrongdoing occurred in connection with the hole found in the reactor head and whether FirstEnergy deliberately misled the NRC when lobbying them to defer the inspection of the CRDM nozzles until after the

December 31, 2001 deadline. The completion of this investigation does not appear to be linked to the NRC's decision of whether or not to allow Davis-Besse to restart.

FirstEnergy continues to assert that it has not deliberately withheld information from the NRC or deliberately misled the NRC as to the condition of the plant. The NRC must complete its investigation into the behavior of FirstEnergy management during the period leading up to the shut-down before considering this petition, and before allowing the plant to restart. The NRC must take into account the willfulness of FirstEnergy's deceit or incompetence before it rules on whether or not this petition has merit. Much of the petition is devoted to describing the events leading up to the shutdown as publicly documented by the NRC, FirstEnergy and the press and showing how these public documents force the conclusion that FirstEnergy deliberately withheld and misstated information to the NRC. The NRC cannot, in good faith, rule on this petition before it completes its own investigation and makes its decision about FirstEnergy's conduct. And as this petition asks for a more thorough inspection process, based on FirstEnergy's deceitful and incompetent operation of the plant, before the plant is allowed to restart, the NRC must not allow Davis-Besse to restart before considering this petition.

II. Continuing Safety Culture Problems at Davis-Besse.

Andy Siemaszko was the lead system engineer at the Davis-Besse plant from July 1999 through September of 2002. Included in Mr. Siemaszko's responsibilities were the Reactor Coolant Systems. During his employment, Mr. Siemaszko attempted to implement the

modifications to the reactor head service platform, which would allow for full access to the reactor head. Management thwarted him, citing time and economic concerns.⁴

Nevertheless, during the 2000 outage, Mr. Siemaszko attempted to remove the boric acid deposits and clean the entire reactor head. When it became apparent that the cleaning could not be finished within one day, a decision was made to alter some equipment used for the cleaning and return the next day to resume and hopefully finish removing all of the boric acid from the reactor head.⁵ When Mr. Siemaszko returned the following morning, however, he found that all of the scaffolding and cleaning equipment had been removed from the site.⁶ When he questioned management as to why this was done in the middle of the night without his consent, he was told that the report authorizing the clean-up must be closed prior to restart for Cycle 13 and that he should be satisfied with the cleaning he was able to accomplish the day before.⁷ During that night management had also issued a statement that the reactor head had been fully cleaned.⁸

Mr. Siemaszko continued to try to find the source for the boric acid leak. Management denied many of his requests for tests and inspections to determine the source of that leak.⁹ Mr. Siemaszko was finally able to complete a full cleaning of the reactor head during the 13th RFO,

⁴ See Complaint, Andrew Siemaszko v. First Energy Nuclear Operating Company, filed with the United States Department of Labor, Occupational Safety and Health Administration 2/18/2003, p.4.

⁵ See id. at p. 8 and 9.

⁶ See id. at 9.

⁷ See id. at 10.

⁸ See Outage Insider for 12 RFO – Day 29. “The reactor head was successfully cleaned yesterday, thanks to Andrew’s efforts, as well as those of the Radiation Protection Technicians. This is the first time in Davis-Besse’s history that the Reactor head has been cleaned. Andrew was a salesman to management, Radiation Protection, and Outage Management, because he felt so strongly about the need to successfully clean the Reactor Head. Congratulations, Andrew on your perseverance, and willingness to effectively deal with the challenges that were presented.”

⁹ See Complaint at p. 11.

when the pine-apple sized hole caused by the boric acid that management had prevented him from fully removing was discovered.¹⁰

After the hole was discovered, Mr. Siemaszko was removed from any responsibility concerning boric acid removal and transferred to the Latent Issue Review Team. As a member of that team, Mr. Siemaszko was responsible for identifying all latent issues that could contribute to an accident, and was required to ensure overall system health and performance.¹¹ As part of his duties Mr. Siemaszko identified possible gasket leakage in the Reactor Coolant Pumps.

There are four Reactor Coolant Pumps. Although all four were found to leak in the past and had not yet been repaired, Davis-Besse has only tested two of the pumps for leakage during this past outage.¹² The two that were tested during this shutdown still leaked and one of these also had a cracked pump shaft that had to be replaced.¹³ Management at Davis-Besse has refused to test the other two Reactor Coolant Pumps, which are much more difficult and expensive to access.¹⁴

Mr. Siemaszko, as well as several other supervisors and the expert contractor, Flowserve Corporation, hired to investigate this issue, advocated that Davis-Besse replace all inner/outer gasket/seals on all four Reactor Coolant Pumps.¹⁵ Flowserve explained that once a reactor

¹⁰ See id. at 12.

¹¹ See id. at 13.

¹² See Union of Concerned Scientists, Davis-Besse: Leaking Reactor Coolant Pumps, March 27, 2003; Intra-Company Memorandum, ED 8268 – 0, From J. Barron, Supervision – Equipment Reliability & J.B. Cummings, Supervisor – Mechanical Systems, Re: Reactor Coolant Pumps, August 9, 2002, p.3.

¹³ See Union of Concerned Scientists, Davis-Besse: Leaking Reactor Coolant Pumps, March 27, 2003.

¹⁴ Condition Report 02-03668, Title: Reactor Coolant Pump Casing-To-Cover Joint Leakage, Originator Roe, S., 8/13/2002.

¹⁵ See Memorandum, From: Jerry Lenzen of Flowserve Corporation, To: Andrew Siemaszko, First Energy Nuclear Operating Co., Davis-Besse Nuclear Station, Re: Reactor Coolant Pump Inter Gasket Leakoff, July 2, 2002 (stating that “Flowserve recommends that the pump gasket degradation be addressed as part of a comprehensive pump inspection/refurbishment plan.”); Condition Report 02-03668, Title: Reactor Coolant Pump Casing-To-Cover Joint

coolant pump is found to leak, methods to repair it that do not involve disassembling the pump and replacing the gaskets will not effectively repair the leaking.¹⁶ Flowserve also added that failure to repair this leak can lead to high degradation of the pump.¹⁷

Mr. Siemaszko informed his supervisor that he would not sign the Latent Issues Report until the other two pumps were inspected and repaired.¹⁸ On September 18, 2002, two days after Mr. Siemaszko attended a meeting and challenged management's decision to ignore his recommendation, the recommendations of several other supervisors and the expert contractor concerning the Reactor Coolant Pump gaskets, FirstEnergy gave him the choice between resigning or being terminated. Mr. Siemaszko chose to be terminated, because he did not believe he had done anything wrong.

In February of 2003, Mr. Siemaszko challenged the termination before the Occupational Safety and Health Administration. He also met with officials from the NRC to discuss his safety related allegations. NRC has, curiously, asked Mr. Siemaszko if they could refer the investigation to FirstEnergy – the parties responsible for terminating him in the first place.

Petitioner is concerned that Davis-Besse may be allowed to restart when tests during prior outages provide proof that two Reactor Coolant Pumps are still leaking, and that those leaks

Leakage, Originator Roe, S., 8/13/2002 (stating that "Failure to adequately address this chronic leakage in a timely manner is contrary to FENOC Engineering Principles and Expectations #3); Intra-Company Memorandum, ED 8268 – 0, From J. Barron, Supervision – Equipment Reliability & J.B. Cummings, Supervisor – Mechanical Systems, Re: Reactor Coolant Pumps, August 9, 2002, p.4 ("Recommendations: Replace the gaskets on all four RCPs")

¹⁶ See Memorandum, From: Jerry Lenzen of Flowserve Corporation, To: Andrew Siemaszko, First Energy Nuclear Operating Co., Davis-Besse Nuclear Station, Re: Reactor Coolant Pump Inter Gasket Leakoff, July 2, 2002 (stating that "Based on industry experience, once the inner gasket begins to experience leakage, there is little change of restoring full integrity of the case-to-cover joint without pump disassembly. ").

¹⁷ See id. (stating that "The specification for allowable leakage is zero. Any leakage will require pump disassembly and gasket replacement to restore joint tightness. The damage resulting from slight leakage during thermal transients is moderate, as long as the leakage arrests during steady-state operation. A steady-state operation leak indicates high degradation and increased leakage can be expected.").

may lead to significant degradation of those pumps. FirstEnergy's refusal to test the Reactor Coolant Pumps for gasket leakage before restart while knowing that leaks in those pumps are virtually assured is eerily similar to FirstEnergy's refusal to test the CRDM nozzles when it knew that cracks had been found in those nozzles at all other plants with a similar design to Davis-Besse.

The NRC should thoroughly investigate FirstEnergy's refusal to test or repair the remaining two Reactor Coolant Pumps, and Mr. Siemaszko's claims of retribution. It is the NRC's duty to ensure that the plant is not allowed to restart with leaking Reactor Coolant Pumps in violation of NRC regulations. This is also offered as a supplement to the 2-206 petition, Section G, detailing FirstEnergy's lack of rehabilitation in its safety culture following the discovery of the hole in the reactor head.

III. Conclusion

In order to fully address all of the concerns raised in this supplement and the main petition, the NRC must revoke FirstEnergy's license to operate the Davis-Besse Nuclear Power Station and force them to apply for a new license. It is only by undergoing a new licensing process that the public can be assured that all issues of safety significance have been identified and rectified, including any degradation to and problems with the electrical system and cable trays, all issues concerning whether safety procedures match the design basis of the plant, all issues concerning the leak detection and containment, and all issues regarding leakage in the Reactor Coolant Pumps. A new licensing process will also ensure that the NRC makes any and all necessary

¹⁸ See Complaint at 15.

Dr. William D. Travers
March 26, 2003
Page 12

changes to its Reactor Oversight Process, and allows for more complete and active public participation in determining whether the Davis-Besse plant is safe and operating within NRC regulations and guidelines before it is allowed to restart.

Sincerely,

Dennis J. Kucinich
Member of Congress

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