February 3, 2003

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

Dear Dr. Travers:

SUBJECT: 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.

I. Request for Enforcement

Congressman Dennis Kucinich[1] hereby requests that the Nuclear Regulatory Commission [NRC] revoke FirstEnergy Nuclear Operating Company's [FirstEnergy's] license to operate the Davis-Besse Nuclear Power Station in Port Clinton, Ohio. The NRC licensed the Davis-Besse plant to operate as a nuclear facility in 1977. This license will not expire until 2017. Because FirstEnergy (1) has admittedly operated the plant in violation of NRC rules and regulations and its own operating license, (2) has admittedly failed to observe safety standards necessary to protect health and to minimize danger to life or property, and (3) has deliberately withheld

[1] Congressman Dennis J. Kucinich lives in and represents the 10th Congressional District of the State of Ohio in the United States House of Representatives. He represents over 600,000 people in northeast Ohio, encompassing Cleveland's west-side and its western and southern suburbs. This district is less than 100 miles from the Davis-Besse Nuclear Power Station. Due to its proximity to the plant and prevailing wind conditions, people and property within the Congressman's district would be detrimentally affected if a nuclear accident were to occur at the Davis-Besse facility.

information from the NRC and fraudulently misrepresented plant conditions in order to continue to operate the plant in an unsafe manner, the NRC, in order to comply with its regulations and guidelines, must revoke FirstEnergy's license to operate the Davis-Besse Nuclear Power Station.

FirstEnergy's misplaced priorities led to corrosion of the nuclear reactor head which would have led to a Loss of Cooling Accident if it had not been discovered. The NRC has placed much emphasis on discovering the root cause of this event and learning how to keep such corrosion from recurring. FirstEnergy's disregard of safety encompassed the entire plant, however, and was not simply centered on the reactor head. FirstEnergy ignored numerous warnings from the NRC, ignored repeated warnings from its own monitoring systems, and lied to and hid information from the NRC. The NRC, therefore, must not be satisfied with repair and inquiry into the discovered corrosion of the nuclear reactor head, but must demand accountability for FirstEnergy's disregard of its rules, regulations and operating conditions. FirstEnergy must be held accountable for its egregious violations and willful non-compliance.

The NRC is responsible for the licensing and oversight of all nuclear power facilities in America. The NRC must be willing to use the authority Congress granted it to follow its own rules and regulations and revoke the license of a nuclear power facility that has operated in contempt of the NRC's authority and public safety.

The NRC cannot trust FirstEnergy to bring other violations of rules and regulations to the NRC. FirstEnergy's record of failing to disclose information to the NRC raises the question of what other violations they may be keeping from public view. The NRC should not have to prove that Davis-Besse has violated other safety regulations in order to bring those violations to light.

If FirstEnergy wishes to continue to operate Davis-Besse as a Nuclear Power Station, they have the choice to apply to the NRC for a new operating license.

Revoking FirstEnergy's operating license and forcing them to apply for a new one will place the burden of proof on FirstEnergy to show that the facility complies with all regulations and guidelines, and will force the Davis-Besse facility to undergo the exhaustive and meticulous inspections, tests and inquiries necessary to obtain a new operating license. These inspections will cover Davis-Besse's entire facility, not just those parts the NRC can justify inspecting based on their knowledge of past problems. Not only is the authority to force FirstEnergy to undergo such a searching inquiry well within the NRC's powers, it is essential that the NRC exercise this authority to ensure compliance with its rules and regulations, and ensure that other licensees do not find that it is more efficient to lie and hide information from the NRC than to comply with the NRC's rules.

II. Facts that constitute the basis for the request.

Under 42 U.S.C. § 2133(b) Congress gives the NRC the authority to issue licenses to persons who "are equipped to observe and who agree to observe such safety standards to protect health and to minimize danger to life or property as the Commission may by rule establish." Congress has also given the NRC the authority to take those licenses away if the licensee violates those standards. *See* 42 U.S.C §2137.

The NRC recognizes this authority in its own regulations. *See* 10 C.F.R. §50.100.[2]

[2] ("Revocation, suspension, modification of licenses and construction permits for cause. A license or construction permit may be revoked, suspended, or modified, in whole or in part, for any material false statement in the application for license or in the supplemental or other statement of fact required of the applicant; or because of

The NRC can revoke a license for (1) "any material false statement . . .of fact required of the applicant"; (2) "conditions revealed by the applicant. . . which would warrant the Commission to refuse to grant a license on an original application"; (3)failure to. . . operate a facility in accordance with the terms of the construction permit or license"; or (4) "failure to observe, any of the terms and provisions of the act, regulations, license, permit, or Order of the Commission."[3] FirstEnergy has violated each and every prong of this regulation, including fraudulently misrepresenting its records, the nature of its inspections, and the operational safety of the plant to the NRC.

The NRC has identified ten violations, infringing upon three of its regulations in addition to violating FirstEnergy's operating license.[4] Those findings include:

1) Operating the reactor with prohibited pressure boundary leakage;
2) failure to take adequate corrective action for a continuing build-up of boric acid deposits on the reactor head;
3) failure to take adequate corrective action for recurrent accumulations of boric acid on containment air cooler fins;

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conditions revealed by the application for license or statement of fact or any report, record, inspection, or other means, which would warrant the Commission to refuse to grant a license on an original application (other than those relating to Secs. 50.51, 50.42(a), and 50.43(b) of this part); or for failure to construct or operate a facility in accordance with the terms of the construction permit or license, provided that failure to make timely completion of the proposed construction or alteration of a facility
under a construction permit shall be governed by the provisions of Sec. 50.55(b); or for violation of, or failure to observe, any of the terms and provisions of the act, regulations, license, permit, or order
of the Commission.")

[3] Id.

[4] See Davis-Besse Nuclear Power Station NRC Augmented Inspection Team Follow-Up Special Inspection Report No. 50-346/02-08(DRS), October 2, 2002.

4) failure to take adequate corrective action for repeated clogging of radiation element filters although a sample of the filter deposits revealed iron oxides, radionuclides, and primary chemistry;
5) failure to follow the corrective action procedure and take timely corrective action for a condition adverse to quality, in that the licensee failed to implement a modification to permit complete inspection and cleaning of the reactor vessel head and CRDM nozzles;
6) failure to complete an identified corrective action for an adverse trend in RCS unidentified leakage;
7) deficiencies in the licensee's Boric Acid Corrosion Control procedure;
8) failure to follow the boric acid corrosion control procedure;
9) two examples of failure to follow the station's corrective action program procedure;
10) multiple examples of information provided to the Commission or required by the Commission's regulations to be maintained by the licensee that were not complete and accurate.[5]

These actions, or inactions, violate:

A) FirstEnergy's license to operate the Davis-Besse facility, specifically Technical Specification Limiting Condition for Operation of Reactor Coolant System Operational Leakage, paragraph 3.4.6.2;
B) 10 C.F.R. Part 50, Appendix B, Criterion XVI, which requires that measures shall be taken to ensure conditions adverse to quality such as failures,

malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances are promptly identified and corrected, and that for significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and that corrective actions are taken to preclude repetition;

C) 10 C.F.R. Part 50 Appendix B, Criterion V, which requires that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures or drawings; and,

D) 10 C.F.R. 50.9 which requires that information provided to the Commission by a licensee or information required by statute or by the Commissions regulations, order, or license conditions maintained by the licensee shall be complete and accurate in all material respects.[6]

FirstEnergy's willful hiding of records and willful misrepresentation of the nature of its inspections and the state of the Davis-Besse nuclear power facility, moreover, are criminal violations, which may be punished by fines and imprisonment. See 42 U.S.C. § 2272; 18 U.S.C. § 1001.

If the NRC does not use its authority to withdraw FirstEnergy's license after FirstEnergy has flouted the NRC's regulations with considerable consequence to public safety, and force the

[5] See id. at pp. ii, iii.

[6] See id. at pp. 2, 4, 5, 7, 9, 12, 14, 15, and 19.

operators of this facility to undergo a full re-licensing examination, the question arises whether this authority will ever be exercised. The authority to revoke a license is not a hollow power, and the NRC must not treat it as such.

A. The Hole

On March 6, 2002, workers at First Energy discovered a 5 by 7 inch hole, 6 inches deep, in the head of the nuclear reactor, leaving only a thin stainless steel lining, which had begun to crack and bulge, to contain the nuclear reaction inside.[7] This hole was discovered by accident while workers were repairing cracked nozzles. One of the nozzles exhibited "unexpected movement" while being repaired and workers, fortunately, investigated to see what allowed for this movement.[8] Experts have concluded that if the hole were not discovered, the reactor could have ruptured within the next year of operation. Experts have also concluded that Davis-Besse's safety systems may not have been able to stop a nuclear meltdown from occurring.[9]

Although the head corroded in a way the NRC did not predict, the hole could have been either discovered much sooner or ameliorated altogether had FirstEnergy acted responsibly, within its own operating license and within federal regulations. As this petition will show, FirstEnergy knew that there were: (1) excessive and rusty boric acid deposits, (2) a significant increase in unidentified coolant leakage, (3) clogged filters in its plant caused by an unidentified

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[7] Davis-Besse: The Reactor with a Hole in its Head, Union of Concerned Scientists, http://www.ucsusa.org/clean_energy/nuclear_safety/page.cfm?pageID=790, October 29, 2002, p.2

[8] See Licensee Event Report 2002-002-000, Davis-Besse Nuclear Power Station, Unit No.1, April 29, 2002.

[9] See Davis-Besse: The Reactor with a Hole in Its Head, Union of Concerned Scientists, October 29, 2002.

source of corrosion, and, moreover, (4) knew that it was unable to fully inspect or clean the vessel head. Yet, FirstEnergy either hid or refused to disclose this information to the NRC, and lobbied to extend the time the plant was running before conducting tests to look for leaks in its CRDM nozzles – which turned out to be the very cause of the hole in the head of the reactor. This is unconscionable, and mandates the most severe enforcement power the NRC has in its arsenal, revocation of FirstEnergy's operating license for the Davis-Besse station.

B. Failure to Provide Access to Reactor Head

In the late 1980's the NRC issued several notices to Davis-Besse regarding the degradation of the reactor coolant system pressure boundary resulting from boric acid.[10] In other words, NRC made FirstEnergy aware of the kind of problems that would ultimately cause the hole over a decade before it happened. The way that the Davis-Besse plant was built precluded easy visual inspections of the head of the nuclear reactor. Other plants with similar designs were cutting larger access ports into the structure to allow for better inspection and cleaning of the vessel head. In the spring of 1990, Davis-Besse considered a similar alteration in the structure after finding boric acid deposits on the head.[11] In September of 1993, managers decided cancel

[10] See, e.g. IN 86-108, 4/24/1987, Degradation of Reactor Coolant System Pressure Boundary resulting from Boric Acid Corrosion.

[11] See MOD 90-0012, 3/21/1990 ("MOD 90-0012 initiated to install multiple access ports with closure plated in the closure head to permit cleaning and inspection of the reactor head. Boric acid has leaked from the CRD flanges and has accumulated on the reactor head. The reactor head is carbon steel and therefore is susceptible to degradation.")

the work order to alter the structure because they claimed that the reactor had been cleaned successfully during the last three outages.[12] This claim was false.

In 1994, engineers again recommended altering the structure to allow for better access to the head. Reports from Davis-Besse, in 1994, state "Video inspections of the reactor vessel head for the CRDM nozzle issue and as a follow-up to the CDRM flange inspection do not encompass a 100% inspection of the vessel head. Cleaning of excessive boric acid reside from the reactor vessel head also does not encompass 100%."[13] This recommended modification was again brought up in the fall of 1998, and a budget for it was approved.[14] In 1998, reports indicate "there is less than 50% accessibility to the reactor vessel head, which does not allow for complete inspection or cleaning of potential boric acid deposits."[15] In 2000, the modification was again put off, this time until 2002.[16] Davis-Besse is the only nuclear power plant with this design that failed to make the modification necessary to allow complete and necessary access to the head of the reactor.[17]

[12] See MOD 90-0012, 9/27/1993 ("Void Request approved. Current inspection techniques using high powered cameras precluded the need for inspection ports, additional, cleaning of the reactor vessel head during last 3 outages was completed successfully without requiring access ports.")

[13] MOD 94-0025, 7/18/1994.

[14] See DBPRC Meeting History, 9/1/1998; DBATS 9/17/1998; DBPRC Meeting History 9/17/1998.

[15] Id.

[16] See DBPRC Meeting History, 9/7/2000.

[17] See NRC Response to Letter from Congressman Edward J.Starkey and Congresswoman Marcy Kaptur inquiring into Safety Issues at the Davis-Besse Nuclear Power Plant, June 28, 2002, p.11

C. Failure to Inspect and Clean Reactor Head 1990 – 2002.

In refueling shutdowns in 1990, 1991 and 1993, managers claimed that acid deposits were fully cleaned from the reactor vessel head.[18] After reviewing records, however, it has been determined that workers left boric acid deposits on the reactor head every single time. There is no documentation that the reactor head was inspected at all in 1990, or that it was cleaned in 1992. FirstEnergy cannot verify how well the reactor head was cleaned in 1993.[19]

Davis-Besse decided not to inspect the reactor head in 1994, even though engineers recommended it be done, because it had not made a commitment to NRC to do so.[20] In 1996, an inspection was performed, and photographs and videotape show boric acid accumulation, and rust stained boric acid on the reactor head.[21] There is no record showing that the head was cleaned.

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[18] See MOD 90-0012, 9/27/1993.

[19] See Root Cause Analysis Report, First Energy, Davis-Besse Nuclear Power Station, 4/15/2002, pp. 26-28 (explaining that the camera angle did not allow for full inspection of the head, and that records did not show that the head had been inspected in 1990, in 1991 engineers reported an excessive amount of boron on the RPV head but did not clean it, and in 1993, reddish brown boron deposits (a strong indication of corrosion) were found, and were cleaned, but the effectiveness of the cleaning could not be verified.)

[20] See PCAQR 94-0295, 3/17/94 & 4/29/94. ("TERMS commitment A16892 requires a visual inspection of the reactor vessel head every refueling to determine the potential for CRDM nozzle cracking in support of B&W safety evaluation to the NRC discussing CRDM nozzle cracking. This safety evaluation requires a visual inspection be performed to either no cracking exists or to confirm its presence. Regulatory Affairs and Design Engineering believe that although the enhanced visual inspection is not a commitment made to the NRC, it is recommended that it be done.")("Since the enhanced visual inspection of the reactor vessel head is not a commitment to the NRC and due to the fact that no cases of head cracks have been identified in the U.S. and boric acid leakage though the CRDM nozzle flanges is low, Plant Engineering doesn't think there is a significant risk of a crack being present. In addition, the inspection methods currently available to us are not highly reliable. Therefore, he does not believe that it is necessary to perform the inspection at this time.")

[21] See PCAQR 96-0551, 4/21/1996 ("Video tape of CRDM nozzle inspection shows several patches of boric acid accumulation on the RV head. CDRM nozzle 67 (core location p-6) shows rust or brown stained boron at the bottom of the nozzle at the head. The head area in the vicinity also has rust or brown stained boron accumulation.") See also Root Cause Analysis Report, p. 28.

In 1998, Davis-Besse inspected the reactor head and again found boric acid on the reactor head, indeed several deposits were described as "fist-sized clumps" of red rusty boric acid.[22] This time Davis-Besse decided to attempt to clean the reactor head, and documented it with a video.[23] Workers, however, allowed some of the boric acid deposits to remain because the structure, as noted above, made it difficult to clean parts of the head.[24]

In 2000, workers inspected the head and again found large "solid rock hard" deposits of boric acid.[25] A recommendation was made to remove as much boric acid "as possible" and attempt to justify leaving the rest of the boric acid build-up on the reactor head.[26] Workers cleaned the head with pressurized water, but were unable to remove all of the boric acid deposits. Reports, however, state that the work was performed fully. An April 25, 2000 order, signed by the reactor coolant system engineer, states "Work performed without deviation."[27] On July 7, 2000, the plant's quality assurance manager signed a report stating "Engineering displayed noteworthy persistence in ensuring boric acid accumulation from the reactor head was thoroughly cleaned."[28] An engineer later acknowledged that the cleaning was not successful and

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[22] See PCAQR 98-0649, 4/18/1998; PCAQR 98-0767, 4/25/1998

[23] See Video, Reactor Head Cleaning, 5/4/1998.

[24] Root Cause Analysis Report, p.29. ("The equipment available to do the work and the limited access to the very top of the RPV head limited the removal process.")

[25] See RCS SPB, 4/12/2000 ("Today should be called 'Boron removal day.' Decon people broke to the inside of the Rx head with crowbars and reported solid hard rock deposits of boron on the head. Recommendation at this time continue to remove as much boron as possible, evaluate head condition, contact B&WOG to justify not removing all the deposits, DO NOT recommend use of water or steam better to justify leaving boron on head.")

[26] See id.

[27] See Davis-Besse Work Order 00-001846-000, April 25, 2000 (FOIA 2002-0226).

[28] See Mangels, John, & Funk, John, Hidden in Plain View, The Plain Dealer, 12/01/02.

some boric acid deposits were left behind.[29] Management decided that no additional time should be spent attempting to clean the head because it would not be successful. Management did not attempt to justify leaving boric acid on the head.[30]

During the next scheduled shut-down in 2002, which FirstEnergy successfully lobbied the NRC to delay, over 900 pounds of boric acid was found on the reactor head.[31] After finally clearing away this unprecedented accumulation, workers found the pineapple-sized hole in the reactor head, leaving only the thin stainless-steel lining to contain the nuclear reaction inside. This lining, which was cracking and bulging, was never meant to fill this purpose or withstand that kind of pressure.

D. Failure to inspect, correct or identify Control Rod Drive Mechanism [CRDM] nozzle leakages.

On August 3, 2001, the NRC issued Bulletin 2001-01 "Circumferential Cracking of Reactor Pressure Vessel Head Penetration Nozzles" describing instances of cracked and leaking CRDM nozzles. Some of the nozzles at other nuclear power plants of similar design were found to have circumferential cracks, leading to the dangerous possibility that a cracked nozzle could be ejected from the vessel head causing a major nuclear accident. CRDM nozzle leakage would lead to excessive boric acid deposits, as the boric acid in the coolant water would remain when water evaporated from the hot reactor head. It would also lead to excess unidentified leakage.

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[29] See Root Cause Analysis Report, p.30.

[30] See id.

[31] See id. at p. 20 "In summary, while the case is not conclusive, it is probable that the approximately 900 pounds of boric acid deposits that accumulated on the RPV head are the result of leakage from the PWSCC crack at nozzles 2 and 3."

FirstEnergy was aware from 1999 on, that the amount of unidentified leakage from the reactor coolant system had doubled from its historic amount and was increasing steadily.[32] Nobody found the source of that unidentified leakage.

During a phone call with the NRC in November of 2001, the Vice-President of Davis-Besse agreed that "based on operating experience there is a high-likelihood that [there were] leaks."[33] Yet he would not agree to shut down the plant to identify and correct those leaks.

During the 2002 inspection, cracks were found in nozzles 1, 2, 3, 5 and 47. FirstEnergy postulates that the worst crack began in 1990 and grew to a through wall crack between 1994 and 1996.[34] FirstEnergy further postulates that the crack should have been discovered between 1996 and 1998 if the reactor head had been thoroughly cleaned and inspected as it had committed to the NRC to do.[35]

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[32] See Nuclear Regulatory Commission, Information Notice 2002-13, "Possible Indicators of Ongoing Reactor Pressure Vessel Head Degradation." April 4, 2002; Petition Pursuant to 10 C.F.R. 2.206 regarding Safety at Davis-Besse Nuclear Power Plant; Root Cause Analysis Report, pp. 16-17.

[33] Memo: Re: After Meeting Discussions, To: Steven Long, From: Jack Strosnider, 11/8/2001, 6:38p.m.

[34] See Root Cause Analysis Report, pp. 22-23.

[35] See id. at 23. ("If the RPV head had been initially clean, and if a timely 100% bare head visual inspection had been completed, the leakage would most probably have expressed itself within a short time as the classical "popcorn" crust of boric acid deposits. This would have been apparent within one or two fuel cycles from the time the crack progressed through the nozzle wall and would not have been accompanied by large-scale corrosion of the low-allow steel. However, at Davis-Besse, the 'popcorn' manifestation was not yet observed, and its detection could have been obscured by previous flange leakage deposits.")

FirstEnergy, pursuant to the conditions of its operating license, was required to shut down the Davis-Besse station within 6 hours of a through wall crack in a CRDM nozzle.[36] Davis-Besse was operating in violation of its license for over 6 years.

E. Ignored Clogged Air Filters on Radiation Detectors.

For over two years, boric acid clogged air filters on the radiation detectors. The air filters were supposed to be changed on a monthly basis. Normally, they were changed due to the schedule rather than from becoming clogged.[37] Beginning in the spring of 1999, the filters were becoming clogged on an increasingly frequent basis, sometimes as often as every day.[38] Engineers at Davis-Besse had the material clogging the filters analyzed. Chemical analysis of the debris determined it was "iron oxide" and it was due to "corrosion."[39] Reports further suggested that, because the particles were so fine, it was attributable to a steam leak.[40]

Although engineers suspected a coolant leak, they did not find it. Instead, they continued to clean and change the filters, sometimes every day. Workers, moreover, moved the monitor

[36] 3.4.6.2 Conditions on Operating License ("Reactor Coolant System leakage shall be limited to: (a) No Pressure Boundary Leakage. Action: a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.")

[37] See Root Cause Analysis Report, p.36

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[38] See id; Sequence of Relevant Events, First Energy, Attachment 2, pp. 145-151.

[39] See also Condition Report, No. 1999-1300, Supervisor Robert C. Hovland, July 30, 1999, p. 1. (reporting on a problem identified by workers at Davis-Besse. Radiation detectors located inside the reactor containment building which continually monitored radiation levels of the air repeatedly failed due to debris collecting on their inlet filters. Chemical analysis of the debris determined it was "Iron oxide" from "corrosion.")

[40] See Root Cause Analysis Report, p. 36.

intakes to different spots, and even bypassed one of the devices' three sensors because it continued to trigger alarms.[41]

F. FirstEnergy Lobbies NRC to defer inspections.

It is with the above admitted knowledge and understanding on the part of management at Davis-Besse that the NRC must look at FirstEnergy's actions when it lobbied the NRC to defer inspections for cracked and leaking nozzles.

In August of 2001, the NRC issued bulletin 2001-01, describing instances of cracked and leaking nozzles, including CRDM nozzles. The bulletin asked the plants to provide specific information about the structural integrity of the plants nozzles. In order to do so, plants like Davis-Besse were asked to do a "qualified visual examination of 100%" of the nozzles before December 31, 2001.[42] NRC set the date of December 31, 2001 in order to give each plant time to schedule a shut-down and arrange to have the necessary personnel and equipment in place.[43] All other plants performed the necessary inspections within the given time-table.[44] All plants with the same design as Davis-Besse found cracked CRDM nozzles. Several of them found circumferential cracks, the kind of cracks that NRC believed could lead to nozzle ejection and a major nuclear accident.

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[41] Mangels, John & Funk, John, Davis-Besse Workers' Repair Job Hardest Yet, Plain Dealer 12/29/02.

[42] NRC 2001-01 bulletin, August 3, 2001

[43] See id.; Office of the Inspector General Event Inquiry, NRC's Regulation of Davis-Besse Regarding Damage to the Reactor Vessel Head, Case No.02-032, December 30, 2002.

[44] See Office of the Inspector General Event Inquiry, NRC's Regulation of Davis-Besse Regarding Damage to the Reactor Vessel Head, Case No. 02-032, December 30, 2002, p. 10.

FirstEnergy responded on September 4, 2001, stating that, although it ranked Davis-Besse as a "high-susceptibility" plant for developing cracks, it felt that its previous inspections were sufficient and that it did not intend to shut down to perform these inspections until the end of March, 2002.[45] FirstEnergy and the NRC held more meetings throughout October and November, where FirstEnergy provided additional information to the NRC attempting to justify the delay of these inspections. During these meetings, FirstEnergy misrepresented the quality and actuality of inspections of the nozzles and the reactor head.

In October of 2001, during a meeting with the NRC, where FirstEnergy's objective was to provide a reasonable basis for assurance that Davis-Besse was safe to operate until the next scheduled refueling outage in March of 2002, FirstEnergy assured the NRC that "All CRDM penetrations were verified to be free from the characteristic boron deposits using video recordings from the previous 2 refueling outages. These videos were made before and after cleaning the head."[46] They further stated that "Davis Besse has a better as-built record of their head and the interference fits than other plants. As such, Davis-Besse has done more and better quality inspections than other plants."[47] FirstEnergy gave this information to the NRC, knowing that they had been unable to do a full inspection of the reactor head for over 10 years, knowing that they had left boric acid deposits on the head for over 10 years, and knowing that there was a virtually 100% possibility of CRDM nozzle cracks and leakage.

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[45] Response to NRC Bulletin 2001-01, "Circumferential Cracking of Reactor Pressure Vessel Head Penetration Nozzle," Docket # 50-346, Licence # NPF-3, Serial # 2731, September 4, 2001.

[46] Commission Technical Assistant Briefing, October 11, 2001, p.1.

[47] Id.

FirstEnergy showed the NRC video-tapes taken of the reactor head. They apparently did not share with the NRC, however, that because of the design of the reactor head service platform, and because FirstEnergy had refused to alter the design of that service platform as recommended by its own engineers, the video-recorder was unable to view the entire reactor head.

FirstEnergy hid information from the NRC. FirstEnergy had a photograph of the reactor head taken during April of 2000. Damage from corrosion is clearly indicated in the photograph - there is an evident "red river" of rusty boric acid flowing from on top of the reactor head.[48] This photo was not included in a packet given to the NRC when FirstEnergy was attempting to convince the NRC that they should be allowed to continue to operate without conducting inspections for nozzle leaks.[49]

FirstEnergy, moreover, did not share with the NRC that the amount of unidentified coolant leakage had doubled since 1999 and was continuing to increase, nor did they share that they were unable to identify the source of this leakage. FirstEnergy did not share that they were having daily problems with their air filters becoming clogged with rusty boric acid dust, and that they had been told that this was a warning sign for corrosion. Nor did they tell the NRC that they were unable to identify the source of this corrosion.

Instead, FirstEnergy offered to perform compensatory measures to assure the NRC that the plant would operate in a safe manner until a scheduled shut down. They offered to 1) shut

[48] See Attached Photo. DB-12rfo.jpg

[49] Mangels, John & Funk, John, Hidden in Plain View: Regulators said they were misled about trouble at Davis-Besse, The Plain Dealer, December 1, 2002. ("Rust and dried boric acid are evident in this photo taken in April 2000 during an inspection of the Davis-Besse nuclear reactor lid. The company did not provide the photo to the Nuclear Regulatory Commission last fall, as it attempted to convince the agency that nozzles on the lid weren't leaking.")

down Davis-Besse by February 16, 2002, instead of March 31, 2002, as originally planned; 2) operate at lower reactor coolant system (RCS) hot leg temperature; 3) maximize availability of redundant safety systems; 4) provide additional training to operators; and 5) perform inspections of 100% of the VHPs.[50] Nuclear experts have persuasively argued that these compensatory actions had no real effect on the safety of the reactor, and both FirstEnergy and NRC knew or should have known this.[51] In fact, NRC staff communications obtained through the Freedom Of Information Act

document that Nuclear Reactor Regulation staff originally doubted the adequacy and significance of these same compensatory actions.[52]

FirstEnergy, through deception and disingenuousness, persuaded the NRC to allow it to continue operating through February 16, 2002.[53] FirstEnergy has since confessed that it acted this way because it was more concerned with production than safety.[54]

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[50] NRC Staff Evaluation related to NRC Bulletin 2001-01 Response FirstEnergy Nuclear Operating Company Davis-Besse Nuclear Power Station, Unit 1, Docket No. 50-346, December 3, 2002.

[51] See Gunter, Paul & Lochbaum, Dave, Anatomy of a Flawed Decision: NRC has a Brain but No Spine, NIRS, UCS, 8/5/2002, p. 4.

[52] Email from Allen Hiser, NRR, To Stephen Sands, NRR, 11/26/2001,"Forward Davis-Besse Operating Temperature Change," FOIA 2002-0229 (stating that operational temperature changes are “negligible.”); Email from Christine Lipa, Region III, to Douglas Pickett and Stephen Sands, NRR, 12/07/2001, “Fwd: Re: Inspections of Davis-Besse Commitments,” FOIA 2002-0229 (stating that “dedicated operator” is neither dedicated nor staged); E-mail from Gareth Perry, NRR, to Steven Long, NRR, 12/13/2001, Fwd: Inspections of Davis-Besse Commitments,” FOIA 2002-0229 (stating in regard to dedicated operator, “I can’t imagine that this would result in a significant increase in safety.”).

[53] See Mangels, John & Funk, John, Hidden in Plain View: Regulators said they were misled about trouble at Davis-Besse, The Plain Dealer, December 1, 2002. (“I think that's a little bit disingenuous," Brian Sheron, the agency's associate director for project licensing and technical analysis, said. "We were asking them to provide us with all the information to support their argument to operate beyond Dec. 31. Apparently, we did not get everything.”)

[54] See Management and Human Performance Root Causes, FENOC, August 15, 2002, p.10 (“There was less than an adequate nuclear safety focus – There was a focus on production, established by management, combined with taking minimum actions to meet regulatory requirements, that resulted in the acceptance of degraded conditions.”); See id.

The NRC, moreover, allowed FirstEnergy to continue operating Davis-Besse knowing that there was a very high likelihood of cracked and leaking CRDM nozzles, a condition that requires immediate shut-down. The Office of Inspector General concluded that the NRC, as well, was overly concerned with the financial impact of a shut-down on FirstEnergy, and less concerned that FirstEnergy complied with regulations ensuring that the nuclear power plant operated in a safe manner.[55]

G. FirstEnergy's Behavior Following Discovery of the Hole.

FirstEnergy has not exhibited behavior showing that it has been rehabilitated since the discovery of the hole in the nuclear reactor head. When FirstEnergy first contemplated how to fix the hole in the reactor head, they wanted to patch the hole - essentially putting a steel band-aid on top of it – an unprecedented move in the nuclear industry. Although the company finally decided not to take this route because it determined it would be too expensive in the long run, the fact that it was even publicly contemplated shows a continuing contempt for public safety.[56]

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at p.29 ("Beginning in the mid 1990s, management focus was on production concerns – Rigor in assessing issues for their potential impact on nuclear safety diminished: *Taking minimum actions to meet regulatory requirements was interpreted to be adequate for nuclear safety – Management style was less directly involved, and relied on subordinates to escalate concerns.")

[55] See Office of the Inspector General, NRC's Regulation of Davis-Besse regarding Damage to the Reactor Vessel Head (Case No. 02-03S). December 30, 2002, pp. 23-24. See also Gunter, Paul & Lochbaum, Dave, Anatomy of a Flawed Decision: NRC has a Brain but No Spine, NIRS, UCS, 8/5/2002 (concluding that the NRC allowed Davis-Besse to continue operating knowing that 4 of 5 safety principles and arguably all 5 – which are to govern all NRC decision making – were not met). The NRC, instead of learning from its mistakes, has disputed the findings of the Inspector General's report in a letter that has done much to increase doubt about where the NRC's priorities lie. See Memorandum to: Hubert T. Bell, Inspector General, From: Richard Meserve, Report on NRC's regulation of Davis-Besse Regarding Damage to the Reactor Vessel Head (Case No. 02-03S), January 8, 2003.

[56] See Krouse, Peter, Repair Job at Davis-Besse deemed too expensive, The Plain Dealer, 5/24/2002.

Shortly after the shut-down, four employees were unnecessarily exposed to radiation at Davis-Besse. FirstEnergy tried an untested method to shut down the reactor more quickly in order to save time and money. This resulted in additional bursts of radiation being expelled within the plant. FirstEnergy allowed workers to forego some safety apparatus while working in the radiated area because they could work more quickly without it. FirstEnergy then allowed the workers to leave the plant with particles of radiation clinging to their bodies, clothes and shoes and to spread that radiation into the environment. [57] This radiation was not discovered until these workers visited other nuclear plants and set off alarms **on their way in** to the plants.[58]

FirstEnergy did not properly train inspectors who were to oversee the integrity of the reactor before start-up. FirstEnergy's failings were not discovered until NRC inspectors, double-checking FirstEnergy's work, found that FirstEnergy inspectors had missed some corrosion and acid build-up. The NRC found that the failings of these inspectors violated two NRC rules and could have jeopardized the plant's safety if allowed to persist.[59] The NRC was forced to order the company to retrain its inspectors and re-inspect the entire containment building.[60]

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[57] See Funk, John & Mangels, John, Davis-Besse broke rules, but fine not likely, The Plain Dealer, 1/8/03; NRC Special Inspections – Substantial Potential for an Overexposure of Occupational Workers (Report No. 50-346/02-16 (DRS)) and Uncontrolled Release of Radioactive Material to the Environment (Report No. 50-346/02-06(DRS)) (explaining that though this turned out to be of low to moderate safety concern, because the licensee did not take suitable measurements of radioactive material, the exposure to radiation could have been much more serious and that the failure of the licensee to obtain and properly analyze representative air samples during the work activity and/or adequately conduct bioassay measurements so as to characterize the radiological intake is an apparent violation of 10 C.F.R. 20.1204; 20.1502(b))

[58] NRC Special Inspections – Substantial Potential for an Overexposure of Occupational Workers (Report No. 50-346/02-16 (DRS)) and Uncontrolled Release of Radioactive Material to the Environment (Report No. 50-346/02-06(DRS)) Two Preliminary White Findings, 1/7/03, at p.4 ("In April 2002, the NRC staff became aware that four of these individuals were determined to be radioactively contaminated upon their arrival at other nuclear power plants and that the source of the contamination was potentially from their work at Davis-Besse.")

[59] See Davis-Besse Nuclear Power Station NRC Special Inspection – Boric Acid Corrosion Extent of Condition – Report No. 50-236/02-09 (DRS)), September 13, 2002 (finding that Davis-Besse violated 10 C.F.R. Part 50,

There have been reports, moreover, that workers are being forced to work excessive overtime. Employees and safety groups have raised concerns whether employees working long hours can do their jobs effectively. Davis-Besse employees have several times in recent months alerted management to working hour concerns. Employees have objected to uncompensated overtime and protested that Davis-Besse employees feel pressured to work for free or risk future merit raises.[61] "I'm friends with quite a few people that work out there," Oak Harbor resident Tom Lentz told NRC officials overseeing Davis-Besse during a September meeting. "I know some of them have been on 12-hour shifts or more and six and seven days a week. That cannot be a safe working environment."[62]

During the repair of a crane used to move the reactor's head and other heavy objects in the containment building, a First Energy manager supervising the work allowed the crane to be used despite the unfinished work because he was, according to FirstEnergy, overly concerned with staying on schedule, and less concerned with quality. He was placed on administrative leave. Workers, reportedly, did the major repairs adequately, but skated on minor repairs – they did not label new wiring, replace electrical panel screw, change burned out light bulbs or clean up debris. FirstEnergy claims that when the director of maintenance saw the faulty work, he

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Appendix B, Criterion V "Instructions, Procedures and Drawings," in that, the licensee failed to provide acceptance criteria or requirements to follow the inspection plans used for the extent of condition inspections of systems in containment, and 10 C.F.R. Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," in that, the licensee failed to adequately train personnel for VT-2 certification to perform containment area extent of condition walkdowns.); See also Mangels, John, NRC: Inspection errors hinder Davis-Besse restart, The Plain Dealer, 9/24/2002.

[60] Funk, John & Mangels, John, Davis-Besse start-up is pushed back, The Plain Dealer 10/08/2002.

[61] Funk, John & Mangels, John, Davis-Besse work hours spur complaint, The Plain Dealer, 12/14/2002.

[62] See id.

ordered the crane shut down until all of the work was complete.[63] The manager who was placed on administrative leave, Timothy Tackett, a veteran supervisor at Davis-Besse, claims that he was being forced to skimp on quality for the sake of expedience. He claims he was punished with administrative leave because he complained to the NRC that FirstEnergy was pushing employees to stay on schedule at the expense of safety.[64] He has filed suit against FirstEnergy because of their treatment of him. An employee of the NRC has called this event "evidence that the plant's culture of sloppiness and emphasis on power production over safety has not been snuffed out."[65]

FirstEnergy let debris accumulate on the floor of the containment building - a potentially serious safety hazard. FirstEnergy allowed the floor to become littered with trash, knowing that, in the event of a breach of the nuclear core, this debris could easily clog up the emergency sump, potentially thwarting workers from effectively cooling down the nuclear reaction and contributing to a nuclear meltdown. FirstEnergy did not even attempt to clean up this debris until the summer of 2002 – after nuclear watchdog groups and the NRC had pointed out the harm in its messiness.[66]

During this shut-down, FirstEnergy discovered further boric acid and rust stains on the base of the reactor, a potentially extremely hazardous condition. FirstEnergy decided to investigate these signs of potential damage by performing further inspections, and running tests.

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[63] See Funk, John & Mangels, John, Davis-Besse operator sees winter restart, The Plain Dealer, 9/18/2002.

[64] See Funk, John, Davis-Besse Supervisor sues First Energy over leave, The Plain Dealer, 10/23/2002.

[65] Funk, John & Mangels, John, Davis Besse operator sees winter restart, The Plain Dealer, 9/18/2002.

[66] See Funk, John & Mangels, John, Davis-Besse Hole is Full of Questions, The Plain Dealer, 10/20/2002.

While it is agreeable that FirstEnergy has decided to investigate this problem, instead of simply attributing it to rust stains running down the sides from the reactor's head, this action does not deserve praise. The NRC should expect license holders to comply with their licenses and operate in full compliance with NRC rules and regulations.[67]

There continues to be an admitted lack of a safety culture at the Davis-Besse plant. FirstEnergy, itself, has admitted that it placed production needs over safety requirements.[68] FirstEnergy, however, is attempting to place this culture in the past and portray itself as reformed. A recent employee survey, however, taken 6 months after the plant had shut-down because of the discovery of the hole in the reactor head, shows employees are still not confident that management has their priorities straight. Of the 1/3 of Davis-Besse employees who responded to the survey 61% believed that management valued staying on schedule and budget more than finding and fixing problems at the plant. Fifty-eight percent believed that the plant's programs for identifying and fixing problems were not effective. Forty percent felt that management did not support the ombudsman, a position that FirstEnergy implemented and paid for who is supposed to handle complaints outside of the normal channel. Twenty-five employees believed that, in order to get a complaint resolved, they needed to take it directly to the NRC, and twenty-six employees believed they had suffered from retaliation, either harassment or intimidation for raising problems. Twelve percent of employees knew of instances within their

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[67] See Funk, John, NRC praises Davis-Besse for handling new issue, The Plain Dealer 10/17/2002.

[68] See Management and Human Performance Root Causes, FENOC, August 15, 2002, p.10, p.29

workgroup where other workers were harassed for raising safety concerns. Even FirstEnergy officials agreed that this is a high number compared to the rest of the industry. [69]

Employees at Davis-Besse, moreover, have been bypassing FirstEnergy's new employee complaint program, designed to assure the NRS that FirstEnergy is strengthening the safety culture.[70] Several employees have even complained, directly to the NRC and again bypassing FirstEnergy, that they are being harassed for raising safety concerns.[71] These employees say that because they raised safety concerns, their supervisors reprimanded them, their colleagues verbally threatened them and their tires were slashed.[72]

FirstEnergy's continuing violations of the NRC's rules and regulations since the discovery of the hole in the reactor head should have little or no impact on the NRC's decision to revoke FirstEnergy's license. The events leading up to the discovery of the hole, by themselves, provide sufficient evidence to revoke FirstEnergy's license to operate the Davis-Besse station. FirstEnergy's behavior since this discovery, however, does little to endear it to the NRC. It has, according to the NRC, continued to operate in a sloppy and unsafe manner in order to restart the facility as quickly as possible, with as little economic impact as possible.[73] FirstEnergy has cut corners and the NRC has caught them doing so numerous times. The question must arise, then, how many corners has FirstEnergy cut that the NRC has not discovered? It is only by revoking

[69] See Davis-Besse Management and Human Performance Improvement Plan, 9/18/2002, pp. 56-60; Funk, John & Mangels, John, Probe, low morale, hound Davis-Besse, The Plain Dealer, 9/19/2002.

[70] See Funk, John & Mangels, John, Nuclear safety hearings to begin, The Plain Dealer, 1/30/2003.

[71] See Funk, John & Mangels, John, Davis-Besse workers claim harassment, The Plain Dealer, 1/31/2003.

[72] See id.

[73] See Funk, John & Mangels, John, Davis Besse operator sees winter restart, The Plain Dealer, 9/18/2002.

FirstEnergy's license and placing the burden of proof on FirstEnergy to prove that the entire Davis-Besse facility is operating within federal regulations, that the NRC can be assured that FirstEnergy has been held accountable for its violations and is operating the Davis-Besse Nuclear Power Station safely.

III. Why the NRC's oversight panels are not sufficient.

The NRC and FirstEnergy have created several panels intended to oversee the restart of the Davis-Besse Nuclear Power Station. Although some of these panels, notably the 0350 panel, have done some good, these panels by their very nature cannot adequately ensure public safety. These panels are fundamentally encumbered by the fact that the NRC has the burden of proving that FirstEnergy is **not** operating safely. Because of FirstEnergy's failings, the burden of proof needs to be placed with FirstEnergy to prove that **they are** operating safely.

Because of FirstEnergy's past behavior, it is unknown what other problems may exist in other areas of the plant that should be examined and repaired. The public cannot trust FirstEnergy to bring these problems to the NRC. The NRC must revoke FirstEnergy's license to operate. If FirstEnergy wants its license back, it must prove that it can satisfy all of the NRC's regulations to receive one.[74]

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[74] In light of recent disclosures, the NRC should, at the very least, re-examine its denial of the April 24, 2002, 2.206 petition asking for a verification by an independent party. This petition was also concerned with reassuring the public that the troubled plant is not restarting with other safety problems not related to the hole in the reactor head. See Comments to Proposed Director's Decision on Petition Pursuant to 10 C.F.R. 2.206 Regarding Safety at Davis-Besse Nuclear Power Plant. August 29, 2002. Although allowing this verification by an independent party is not nearly enough to hold FirstEnergy properly accountable for its violations of federal law, and to ensure public safety, it is at least a step in the right direction. It will provide for public assurance that the NRC and the Nuclear Industry are not ignoring other safety concerns that they do not yet deem important. After recent disclosures, it is an assurance the public needs.

IV. The NRC must use its authority to revoke FirstEnergy's license

As discussed, the NRC has the authority to revoke a license for violating its regulations. The NRC has exercised this authority liberally with regard to the licenses that it issues for possessing nuclear materials. It has used its authority to modify, suspend or revoke dozens of licenses since 1996.[75] It has used this authority when licensees have violated its regulations, when licensees have failed to conduct necessary tests, when licensees have failed to use employees with proper training, and when licensees have deliberately failed to provide the NRC with complete and accurate information.[76]

The NRC has not used its authority to revoke a license with regard to the licenses that it issues to operate nuclear power facilities. The NRC's own guidelines regarding enforcement sanctions would categorize the events that occurred at the Davis-Besse station at Severity Level I, the highest level, because those events involve (1) "situations involving particularly poor licensee performance, or involving willfulness"; (2) "situations when the violation results in a substantial increase in risk, including cases in which the duration of the violation has contributed to the substantial increase"; and (3) "situations when the licensee made a conscious decision to

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[75] See http://www.nrc.gov/reading-rm/doc-collections/enforcement/actions/materials/, 1/20/2003.

[76] See id. (Listing orders modifying, revoking or suspending license including: Department of the Army, IL, EA-97-059, issuing ORDER on 3/26/1997 for numerous violations of NRC requirements; Eastern Testing & Inspection, Inc, NJ, EA-96-085 issuing ORDER on 3/29/1996 for deliberate use of radiographer without proper training, false certification of qualification; Envirocare of Utah, Inc. VT, EA-97-303, issuing ORDER on 6/25/1997 for violation of 10 C.F.R. 150.10; Department of Health & Human Services, EA-97-080, issuing ORDER on 5/20/1997 – This action was based on numerous violations which indicated a programmatic breakdown in licensed activities; HNU Systems, Inc, MA, EA-96-234, issued ORDER on 8/22/1996 for 7 violations of NRC requirements; JC Blair Memorial Hospital, PA, EA-96-110 issued ORDER on 4/10/1998 for deliberate material false statement; Power Inspection, Inc., The Durio Company, Inc., OH EA-95-227, issued ORDER on 4/12/1996 for failure to leak test sealed resources at intervals specified by 10 C.F.R. 34.25(b); United Evaluation Services, NJ, EA-02-103, issued ORDER on 5/14/2002 for licensee's deliberate violations of NRC safety requirements involving radiography, as well as its deliberate provision of inaccurate information to the NRC.)

be in noncompliance in order to obtain an economic benefit."[77] The NRC considers these violations to be of significant concern, and may apply its full enforcement action to remedy these violations, including issuing appropriate orders.[78]

The NRC specifically limits its discretion to mitigate the enforcement sanctions where "the root cause of the event is obvious or the licensee had prior opportunity to identify the problem but failed to take action that would have prevented the event."[79] This limitation that the NRC placed on its own discretion applies directly to the circumstances at the Davis-Besse Nuclear Power Station. FirstEnergy knew that boric acid was accumulating on the reactor head, knew that it could not properly inspect the reactor head, knew that corrosion was occurring in the plant, and knew that coolant leakage was increasing significantly, yet failed to take any action to identify the leakage or prevent the corrosion from eating a hole in the reactor head. FirstEnergy, moreover, hid this information from the NRC and lied to the NRC about plant conditions in order to continue to operate the plant – admittedly - because it was more concerned with production than safety.

FirstEnergy has clearly violated the NRC's regulations and policies to a much greater degree with potentially much greater consequences than others who have had their licenses revoked by the NRC. If NRC does not act here, it raises the question of a double-standard - one consequence for those who have greater resources to challenge the NRC's decision, and a

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[77] 63 F.R. 26630-01, 26642. May 13, 1998.

[78] See id.

[79] 63 F.R. 26630-01, 26642 at Footnote 9. ("Discretion is not warranted when a licensee identifies a violation as a result of an event where the root cause of the event is obvious or the licensee had prior opportunity to identify the problem but failed to take action that would have prevented the event.")

different and much more serious consequence for those with fewer resources to challenge the NRC. The NRC is abusing the authority granted to it by Congress if it does not operate fairly and consistently with all of its licensees.

V. Conclusion

FirstEnergy has operated outside the parameters of their operating license for several years, has violated numerous federal laws, rules and regulations, and has hidden information from the NRC and lied to the NRC to justify the continuing operation of the Davis-Besse Nuclear Power Station. The NRC cannot trust FirstEnergy to be forthcoming with any and all other safety violations it has committed over the last decade. The NRC cannot ensure that it has identified any and all other safety violation FirstEnergy has committed. The only way the NRC can ensure that the Davis-Besse Nuclear Power Station is operating under federal law is to revoke FirstEnergy's operating license and compel FirstEnergy to apply for a new license. This action will place the burden of proof firmly on FirstEnergy to show that every aspect of the Davis-Besse Nuclear Power Station conforms to all federal laws, rules, and regulations.

FirstEnergy must be held accountable for its contempt for the laws of the United States and the lives of the American people. The NRC, to properly perform its congressional mandate to regulate the nuclear industry and protect health and minimize danger to life or property must revoke FirstEnergy's license to operate the Davis-Besse Nuclear Power Station. The NRC is authorized to do so pursuant to 42 U.S.C. § 2137 and 10 C.F.R. § 50.100 and has done so on many occasions for less egregious violations than those described here. Therefore, I ask that the

NRC grant this section 2.206 petition and immediately revoke FirstEnergy's operating license

for the Davis-Besse Nuclear Power Station.

Sincerely,

Dennis J. Kucinich
Member of Congress

DJK:jb1