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FirstEnergy/Energy Harbor/now Vistra: Cutting Corners on Nuclear Maintenance

FirstEnergy, then Energy Harbor, and as of March 2024, acquired by Vistra, continues to be given waivers on inspections, standards, maintenance, repairs, upgrades and other regulations covering its nuclear reactors by the Nuclear Regulatory Commission (NRC). The NRC is siding with the powerful nuclear industry in lieu of protecting Americans from nuclear disaster. Here is a partial list of FirstEnergy requests for exemptions, along with NRC waivers granted.

1) **7-18-25** ***Vistra Operations Company, LLC; Perry Nuclear Power Plant, Unit No. 1; Exemption*****.** FRN for exemption from the license renewal needing to be referred to the Advisory Committee on Reactor Safeguards for a review and report.
2) **ALSO CUTTING CORNERS ON LINE MAINTENANCE: 7-15-25 Cleveland.com:** ***'Our heads would be on stakes outside': Northeast Ohio cities, PUCO seek answers for frequent FirstEnergy blackouts*****.** PUCO regulators are also investigating how the company charged its customers nearly half a billion dollars for a so-called "equipment modernization fee," only to fail to account for any spending of the fees.
3) **3-3-25 WKYC:** ***3News Investigates: Ohio watchdog says FirstEnergy improperly pocketed $546M from taxpayers*****.**
4) **1-17-25:** ***Davis-Besse: Issuance of Amendment regarding the removal of the table of contents from the Technical Specifications***. The amendment removes the Table of Contents from the Davis-Besse TSs and **places it under licensee control**.
5) ***1-7-25: Davis-Besse:*** ***Vistra request to defer InService Inspection (ISI) examinations for Pressurizer and Steam Generator welds and full penetration welded nozzles*****.**
6) **5-15-24:** ***Vistra Operations Company LLC.; Perry Nuclear Power Plant, Unit 1; Independent Spent Fuel Storage Installation; Exemption*****.** OK to load Holtec 89 position multi-purpose canister with continuous basket shims where terms, conditions, and specifications in the Certificate of Compliance are not met**.**
7) **3-7-24** ML24036A347 Exempts Davis-Besse from "Physical Protection of Plant and Materials," subpart T, "Security Notifications, Reports, and Recordkeeping.
8) Dated 11/10/2022 placed into ADAMS 11/29/2022 (delayed 19 days) ML22307A143. Energy Harbor Nuclear Corp. and Energy Harbor Nuclear Generation LLC; **DavisBesse Nuclear Power Station**, Amendment Date October 14, 2022. Amendment No. 304 revised the design basis for the Davis-Besse shield building to allow laminar concrete cracking of a limited width in the outer reinforcement layer of the shield building containment structure.
9) The Nuclear Regulatory Commission (NRC) has **neglected to update U.S. nuclear regulations to meet the International Atomic Energy Agency (IAEA) recommendations**.
10) The NRC has not required any nuclear plants to implement the recommendations from the **Lessons Learned from Fukushima**.
11) 8-25-22 ML22236A645 Updated Inspection Plan for **Davis-Besse** Nuclear Power Station. Moving from a 3-year cycle of inspection to a 4-year cycle.
12) 11/16/21 ML21321A379 **Davis-Besse** Nuclear Power Station, Unit No. 1 - Request for Additional Information Regarding Alternative to Extend the Steam Generator Weld Inspection Interval
13) 4-19-21 ML21106A027 **Perry** Nuclear Power Plant, Unit 1, Request to Revise the Methodology Used for Flood Hazard Analysis and to Request Exemptions to Support Flood Mitigation
14) 03/01/21 ML21035A170 **Perry** Nuclear Power Plant, Unit 1 - Issuance of Amendment No. 192, Regarding Application to Revise Technical Specifications to Adopt TSTF-582, "Reactor Pressure Vessel Water Inventory Control (RPV WIC) Enhancements"
15) 2-16-21 ML21055A264 Summary of Teleconference with Energy Harbor to Discuss Potential License Amendment Request Related to Revising Flood Mitigation for **Perry** Nuclear Power Plant, Unit No. 1.

16) 1-11-21 ML21011A273 License Amendment Request to reduce **Perry** Emergency Plan
17) In Oct. 2020, the NRC proposed revision of the expiration date of **Perry's** Operating License for over a year, from March 18, 2026, to November 7, 2026.
18) 1-15-21 ML21018A004 Testing Extension **Perry** asking to defer Snubber Inspections claiming COVID Hardship
19) 2020: NRC has given even further maintenance exemptions to nuclear plants due to the coronavirus. Reactors are allowed to run with fewer staff working much longer shifts. See the article ***Coronavirus Hits the Nukes, Keep Your Fingers Crossed*** for details.
20) 11-27-19 ML19331A011 **Perry** Compliance deferred over a year until December 2020.
21) 11-18-19 ML19323F020 **Perry** Nuclear Power Plant, Focused Evaluation Regarding Near-Term Task Force Recommendation 2.1 for Flooding. Fukushima modification recommendations deferred because Perry planned to close in May 2021.
22) 10/07/2019 ML19280C230 **Davis-Besse** Nuclear Power Station, Unit No. 1 - Deviation from MRP-227-A, "Materials Reliability Program: Pressurized Water Reactor Internals Inspection and Evaluation Guidelines" (Deviation seeking Deferred Internals Inspection until 2022.)
23) 10/07/2019 ML19280C628 **Perry** Nuclear Power Plant - Report of Facility Changes, Tests, and Experiments (Perry modifications/regulation rollback)
24) 09/27/2019 ML19273A113 **Davis-Besse** Nuclear Power Station - Acceptance of License Amendment Request to Extend Containment Leakage Rate Test Interval
25) 8-14-19 ML19163A023 **Perry** Nuclear Power Plant, Unit No. 1 - Issuance of Amendment No. 186 Concerning Changes to Emergency Response Organization.
26) 6-25-19 ML19176A078 **Perry** Nuclear Power Plant - "Deviation from BWRVIP-139 Revision 1-A: BWR Vessel and Internals Project, Steam Dryer Inspection and Flaw Evaluation Guidelines". (Exemption to operate without Inspection)
27) 06/04/2019 ML19067A021 **FENOC Fleet** - Beaver Valley; Davis-Besse; Perry. Exemption from the Requirements of 10 CFR 73.55(p)(1)(i) and (ii) Related to the Suspension of Security Measures in an Emergency or During Severe Weather.
28) 05/23/2019 ***Request for an Exemption from Certain Record Retention Requirements*** in Part 50 to Title 10 of the Code of Federal Regulations for **Davis-Besse** Nuclear Power Station, Unit No. 1.
29) 04/30/2019 ML19120A208 **Davis-Besse** Nuclear Power Station, Unit 1, Request for Exemption from Record Retention Requirements.
30) 03/07/2019 ML19053A558 Federal Emergency Management Agency Review Requested of Revision to the **Davis-Besse** Nuclear Power Station Emergency Plan For Post-Shutdown and Permanently Defueled Condition.
31) 3/4/2019 ML19031C930 NRC Response to Request for Deferral of Actions Related to Beyond-Design-Basis Flooding Hazard Reevaluations for **Davis-Besse** Nuclear Power Station, Unit 1
32) 2/27/2019 ML19058A328 **Davis-Besse** Nuclear Power Station, Unit No. 1 - Supplement to License Amendment Request - Proposed Changes to Technical Specifications Sections 1.1. "Definitions," 5.0., "Administrative Controls." for Permanently Defueled Condition. License-Application for Facility Operating License (Amend/Renewal). (Sheds workers and regulations)
33) 2-25-19 ML19022A324 **Perry** Nuclear Power Plant, Unit 1 - Issuance of Amendment No. 185 Concerning Extension of Containment Leakage Test Frequency.
34) 09/24/2018 ML18283A946 **Davis-Besse** Nuclear Power Station, Unit 1, Revision 27 to Fire Hazards Analysis Report (FHAR), Section 1, Introduction and Summary.
35) 09/24/2018 ML18283A961 **Davis-Besse** Nuclear Power Station, Unit 1, Revision 27 to Fire Hazards Analysis Report (FHAR), Section 7, Oil Collection System For Reactor Coolant Pumps.
36) 9/6/2018 ML18178A588 **FENOC Fleet** - Beaver Valley; Davis-Besse; Perry. Individual FR Notice - Notice of Issuance of Exemption re: Exemption from the Definition of Physical Barrier.
37) 8/29/2018 ML18130A885 **FENOC Fleet** - Beaver Valley; Davis-Besse; Perry - Environment Assessment and Finding of No Significant Impact Related to Exemption Request for a Physical Barrier Requirement.
38) 8-29-2018 ML18130A849 **Davis-Besse** Nuclear Power Station, Unit 1 - FirstEnergy Nuclear Operating Company (FENOC); FirstEnergy Nuclear Generation, LLC; Environmental Assessment. A partial exemption from the "Physical barrier" requirements.
39) 1/22/2018 NRC has given permission to FirstEnergy to run its 4 reactors with **leaking on Class 2 & 3 Piping**.

40) 4/6/2017 ML17093A614 **Davis-Besse** Nuclear Power Station, Unit No. 1 - Request for Withholding Information From Public Disclosure (CAC NO. MF9126).
41) 10/19/2017 ML17257A098 **Perry** Nuclear Power Plant, Unit 1 - Issuance of Amendment Concerning Revisions to the Environmental Protection Plan).
42) 10/16/2017 ML17270A030 **Perry** Nuclear Power Plant, Unit 1 - Approval of Alternative to Use ASME Code Case N-513-4 For Repair of Emergency Service Water System Piping.
43) 1/10/2017 ***The NRC allowed Davis-Besse to increase liquid effluents tenfold*****,** with a Finding Of No Significant Impacts (FONSI) approved. The NRC notice of this FONSI did not come through to the public until December 2017. Full document here: ***Final EA and FONSI Davis-Besse Effluent Release Controls*****.**
44) 11/21/2016 ML17039A637 **Davis-Besse** Nuclear Power Station, Unit 1, Revision 31 to Updated Final Safety Analysis Report, Fire Hazard Analysis Report, Rev. 27, Section 1, Introduction. **(LISTS 19 EXEMPTIONS GIVEN TO FIRE SAFETY STANDARDS)**; 11/21/2016 ML17039A635 Davis-Besse Nuclear Power Station, Unit 1, Revision 31 to Updated Final Safety Analysis Report, Section 18, Managing the Effects of Component Aging; 11/21/2016 ML17039A645 Davis-Besse Nuclear Power Station, Unit 1, Revision 31 to Updated Final Safety Analysis Report, Fire Hazard Analysis Report, Rev. 27, Section 7, Oil Collection System for Reactor Coolant Pumps; 11/21/2016 ML17039A638 Davis-Besse Nuclear Power Station, Unit 1, Revision 31 to Updated Final Safety Analysis Report, Fire Hazard Analysis Report, Rev. 27, Section 2, References.
45) 5/10/2016 ML16147A006 According to these documents Davis-Besse exceeded standards of radiological releases for several isotopes including: Co-57, Co-60, Sr-90, Cs-134, Cs-137, K-40, Xe-65, Fe-55, Pu239/240.
46) 2-11-16 ML16147A007 **Missile generation by tornado deferred.** External objects and equipment on the ground that can become flying debris. This already occurred when a tornado hit Davis-Besse in 1998. ***Ottawa County Tornado 6/24/98: Storm Shuts Down Ohio Nuclear Plant***

UNPLANNED SHUTDOWNS AND EVENT NOTIFICATIONS: FirstEnergy has had multiple unplanned shutdowns and Event Notifications (problems and breakdowns that require notification of the NRC). These occur on a regular basis.

IGNORING PROBLEMS, NRC GIVES REACTORS GOOD SAFETY MARKS: Toledo Blade 3/8/2019: ***Davis Besse, Fermi 2 nuclear plants get good safety marks***

Additional Waste Adds to Reactor Community Burden: The longer Davis-Besse and Perry operate, the greater the amount of high-level nuclear waste (HLW) onsite. HLW is spent (meaning used) nuclear fuel, also termed SNF. Neither the U.S. nor the world has any idea for what to do with HLW/SNF. In reality, serious challenges make it highly unlikely that HLW will be moved very far from the site of generation. Even imagining "permanent disposal" in someone else's backyard, reactor communities will be saddled with HLW for decades to come. Amount of HLW at Davis-Besse and Perry: Reference is Bob Alvarez' 2011 report: ***Spent Nuclear Fuel Pools in USA & Reducing Risks*****.** See page 25, table of SNF Inventory plant by plant. As of 2010 there were 505 Metric Tons at Davis-Besse and 452 at Perry. ***That is about 16 tons of high-level waste generated per year.*** Official updated inventories are not available but can be estimated.

THIN NUCLEAR WASTE CANISTERS: Unbelievably, NRC has licensed thin-wall stainless steel dry storage canisters for high-level nuclear waste that are only 1/2- to 5/8-inch thick. These thin canisters are accumulating at almost every commercial nuclear site. They are welded shut and cannot be maintained or repaired. They cannot be inspected or monitored internally or externally. They can crack through and **cause major radioactive leaks and explosions** in as little as 17 years. Peak radiation levels from outlet air vents **are kept from the public**. San Onofre Safety has **documented these issues**. Thick-walled casks are required in Europe. They are designed to be monitored, maintained, and transportable and **are proven international standard**. The NRC has set up a scenario for disaster with these thin "tin cans".

HIGH BURNUP FUEL: "High Burnup" nuclear fuel has been used in the U.S. for over 20 years. High Burnup fuel was defined by being more highly enriched, with the ability to be "burned" longer and at hotter temperatures. It is over twice as radioactive and thermally hot as traditional waste, requiring up to 20 years cooling in fuel pools before dry storage. High Burnup damages both fuel and cladding, increasing the risk of hydrogen gas explosions

and making it **unstable for transport**. **Substantial safety risks from high burnup fuel** have been documented since 2014. There are hundreds of tons of spent High Burnup fuel at Davis-Besse and Perry. All new 'advanced' nukes will require even higher burnups to be cost effective.

UPDATE: The NRC has redefined High Burnup fuel, increasing the amount of heat output. Under the new definition NO U.S. REACTOR IS USING HIGH BURNUP FUEL.

NRC regulations require that plants be able to return fuel to the pools. But the NRC gives exemptions to this when reactors close. This does not eliminate the need to return fuel! The NRC is ignoring their own regulations by approving short, 2-year cooling times for newer types of fuel. By allowing these short cooling times they've made returning fuel impossible. A steam flash would occur if returning were attempted, because fuel is excessively hot.

DANGEROUSLY OVERCROWDED FUEL POOLS: When used fuel is first taken out of nuclear reactors it is extremely hot and must be cooled in water for 5-6 years. These pools are expensive to build. The result is that FirstEnergy/Energy Harbor and other utilities continue adding fuel to existing pools, ignoring specifications. Davis-Besse and Perry have more than twice as many used fuel rods in their fuel pools as the pools were designed to hold. Outside electricity is needed to cool the pools if a reactor is shut down, such as for refueling or a weather incident. This poses a serious problem if outside electricity is cut off. Reactors have backup generators, but these have limited fuel and are notorious for failure. A pool fire caused by loss of electricity or a terrorist act would be as catastrophic as a meltdown.

RISK OF NUCLEAR CATASTROPHE: Davis-Besse is already operating past its 40-year engineered lifespan. Davis-Besse and Perry are on Lake Erie, a critical resource for drinking water, recreation and livelihoods for millions of people. How long can you drive an old car? Nuclear reactors have a problem that old cars don't – embrittlement, or weakening of concrete and steel by continuous radioactive bombardment. A nuclear accident could wreak hundreds of billions of dollars in property damage with life-altering health consequences for tens of thousands. Or even worse, turning a large part of Ohio into a sacrifice, uninhabitable zone. FirstEnergy's Beaver Valley reactors sit only 4 miles east of the Ohio border in Pennsylvania.

ICE-WEDGING CRACKS WIDEN IN DAVIS-BESSE'S "SHIELD" BUILDING: Organizations intervening in Davis-Besse's license extension challenged that the shield building over the reactor was continuing to crack, caused by moisture in the outer concrete continually freezing and thawing. The building had never been painted. **Falling concrete could cause major damage both by hitting the reactor inside and by hitting essential equipment outside.** FirstEnergy maintained that the cracks were caused by the blizzard of 1978, and that cracks were not widening. Yet they then painted the building. The cracks still continue to expand, but now they are expanding much faster because **the new paint sealed in moisture**.

- FirstEnergy hid the water-locked-in-the-walls after painting for 2.5 years, just until after legal challenges to a 20-year license extension were dismissed by the NRC Atomic Safety and Licensing Board.
- There were several root causes for the cracking, likely acting in synergy, and most definitely aging related, as FirstEnergy Nuclear Operating Company admitted in July 2014, as soon as the relicensing challenges were dismissed**.**
- Two NRC engineers calculated that during a minor earthquake or a minor to moderate accident causing heat to permeate the interior wall, up to 90% of the 2.5-foot thick wall of the shield building could collapse into rubble on top of the reactor. ***Intervenors' Fifth Motion to Amend and/or Supplement Proposed Contention No. 5*** *(*Shield Building Cracking), Aug. 16, 2012 pp. 37-41.
- It would cost several billion dollars to replace the shield building.
- In 2018 FirstEnergy began drilling core boring holes into the concrete wall of the shield building, installing relative humidity probes. Core bores for monitoring conditions are up to 4 inches in diameter. Holes for relative humidity probes are 1-inch diameter or less. 113 sq. ft. has been bored. Some holes have been left open. This **methodology is experimental** and suspect, as these holes further weaken the concrete. The NRC conclusion was that "the effect of drilling is small." This has not been substantiated.
- In the event of an accident, any breached containment would let catastrophic amounts of hazardous radioactivity escape downwind and into Lake Erie.
- Kevin Kamps, Radioactive Waste Watchdog for Beyond Nuclear, points out that Davis-Besse's severely cracked concrete shield building grows worse by a half-inch or more in circumferential orientation each time a freeze-thaw cycle happens, which is many times each autumn, winter, and spring. Davis-Besse is very vulnerable to an "additional load" such as an earthquake – whether it is a natural earthquake or one that is induced by fracking. LiveScience 1-5-15: ***Fracking Led to Ohio Earthquakes*****.**

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