UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	Docket No. 50-440
	)	
Energy Harbor Nuclear Corp.; Energy Harbor Nuclear Generation LLC	)	NRC-2023-0136
	)	
	)	January 2, 2024
(Perry Nuclear Power Plant, Unit No. 1)	)	

OHIO NUCLEAR-FREE NETWORK'S AND BEYOND NUCLEAR'S COMBINED REPLY IN SUPPORT OF PETITION FOR LEAVE TO INTERVENE

Now come the Petitioners, Ohio Nuclear-Free Network ("ONFN") and Beyond Nuclear ("BN") (collectively, "Petitioners"), on behalf of their respective members, proceeding by and through counsel, and reply in support of their Petition for Leave to Intervene (Petition) in this matter which was filed on November 28, 2023. Petitioners' Reply is directed to Energy Harbor's Answer to Petition for Leave to Intervene ("EH Answer") and NRC Staff's Answer ("NRC Answer"), filed in this proceeding on December 22, 2023 and December 26, 2023, respectively.

I. INTRODUCTION

The Nuclear Regulatory Commission Staff ("NRC Staff") and Energy Harbor Nuclear Corporation ("Energy Harbor" or "EH") both seek to try the contentions alleged in the Petition on their merits in order to deny Petitioners a hearing at this threshold pleading stage. They project pleadings as competing evidence to be weighed and ruled upon as a substitute for actual trial. In their answers, the Staff and Energy Harbor seek denial of the contentions in the manner of a summary trial as a means of quibbling over their supposed inadequacies. The Staff and Energy Harbor are trying to compress the continuum of pleading, procedural motions, discovery, dispositive motions and adjudication into one improper stage, where denying admission of a

proffered contention is converted into a substitute trial on the merits to obtain a substantive ruling with *res judicata* effect.

But the standards for contention admission do not envision a substitute merits trial here. A contention need only be specific and have a basis. Whether or not the averments of the contention are true is left to litigation on the merits later in the licensing proceeding. *Washington Public Power Supply System* (WPPSS Nuclear Project No. 2), ALAB-722, 17 NRC 546, 551 n.5 (1983), citing *Houston Lighting and Power Co*. (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542 (1980); *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-869, 26 NRC 13, 23-24 (1987), *reconsid. denied on other grounds,* ALAB-876, 26 NRC 277 (1987); *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 & 2), LBP-89-28, 30 NRC 271, 282 (1989), *aff'd on other grounds*, ALAB-940, 32 NRC 225 (1990); *Arizona Public Service Co*. (Palo Verde Nuclear Generating Station, Units 1, 2, & 3), LBP-91-19, 33 NRC 397, 411 (1991), *appeal denied*, CLI-91-12, 34 NRC 149 (1991).

The factual support necessary for ONFN/BN to show a genuine dispute exists need not be in formal evidentiary form, nor need it be as strong as that necessary to withstand a summary disposition motion. What is required – *all* that is required – is "a minimal showing that material facts are in dispute, thereby demonstrating that an 'inquiry in depth' is appropriate." *Gulf States Utilities Co.* (River Bend Station, Unit 1), CLI-94-10, 40 NRC 43, 51 (1994) (citing "Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process," 54 Fed. Reg. 33,168, 33,171 (Aug. 11, 1989), quoting *Connecticut Bankers Association v. Board of Governors*, 627 F.2d 245 (D.C. Cir. 1980).

In order to oppose ONFN/BN's proposed contentions, the NRC Staff and Energy Harbor have conjured up a stream of apparitions and bugbears to divert the ASLB's attention away from

the contentions, which depict material facts and disputes. As discussed below, the Petitioners' contentions all should be admitted.

II. PETITIONERS' STANDING IS CONCEDED BY ENERGY HARBOR AND THE NRC STAFF

Both Energy Harbor and the NRC Staff concede that Petitioners have established legal standing to represent their individual members as a prerequisite for consideration of their proffered contentions.[1]

III. VOLUNTARY WITHDRAWAL OF CONTENTION 1

Voluntary Withdrawal of Contention 1: Inadequate Geological Understanding of Problems at the Perry Nuclear Power Plant Site

Petitioners hereby give notice of the withdrawal of their Contention 1, which was pleaded in their November 28, 2023 Petition for Leave to Intervene.

IV. REPLY ARGUMENTS IN SUPPORT OF CONTENTIONS 2 AND 3

Reply in Support of Contention 2: Flawed Description of. And tp Rejection of, No-Action Alternative

Both the NRC Staff and Energy Harbor argue that 10 CFR § 51.53(c)(2) disposes of Contention 2 on its merits without being allowed to proceed to an evidentiary hearing because "The [environmental] report is not required to include discussion of need for power or the economic costs and economic benefits of the proposed action or of alternatives to the proposed action except insofar as such costs and benefits are either essential for a determination regarding the inclusion of an alternative in the range of alternatives considered or relevant to mitigation."

But the second clause of the regulation cannot be ignored here. A comprehensive public disclosure of the comparative costs and benefits of Perry is called for here. Despite the insistences of EH and the NRC Staff, Petitioners are not seeking to litigate or relitigate the need

[1] See EH Answer, p. 2 fn. 4; NRC Staff Answer, pp. 1-2, 48.

for PNPP, but instead, to facilitate a genuine and meaningful comparison for the Atomic Safety and Licensing Board to consider in the process of deciding whether or not to require inclusion of long-term purchased power as an alternative to a 20-year extension of Perry's operating license beyond November 7, 2026. A comprehensive understanding of the costs as well as the benefits of the power generated by Perry is essential to determine whether purchased power affords a viable alternative and has been adequately considered by the Staff and Energy Harbor.

In Section 7.2.2.1 of its Environmental Report, Energy Harbor listed three main reasons for determining that purchased power is not a reasonably discrete alternative: uncertainties in energy reliability, uncertainties created by the closure of coal-fired plants, and the potential that the environmental impacts associated with purchased power could exceed the impacts of license renewal. This conclusory dismissal of consideration of purchased power as a permanent replacement for PNPP allows Energy Harbor to conceal and deny the weak economics of its nuclear power plants. What Petitioners have raised via Contention 2 is not a reconsideration of the need for power from Perry, but instead, public disclosure of an alternative to the continued operation of PNPP after November 7, 2026. Preparation of an Environmental Impact Statement (EIS) before undertaking any "major Federal action[ ] significantly affecting the quality of the human environment," 42 U.S.C. § 4332(2)(C), ensures that the lead agency "consider[s] every significant aspect of the environmental impact of a proposed action" and "inform[s] the public that it has indeed considered environmental concerns in its decision making process." *Balt. Gas & Elec. Co. v. NRDC,* 462 U.S. 87, 97, 103 S.Ct. 2246, 76 L.Ed.2d 437 (1983).

Content analysis of Energy Harbor's License Renewal Application ("LRA") exposes the inadequacy of EH's alternatives discussion. The term "excess capacity" appears only one time in the 2,427-page License Renewal Application, and as it is used, it does not refer to excess

regional electric power production capacity, but instead explains the redundant capability at Perry to provide cooling water for the nuclear reactor. The term "overcapacity" – as in excessive or redundant capacity to generate electricity – appears nowhere in the LRA. Nor does "PJM," the name of the regional power transmission organization that coordinates the consistent delivery of electricity wherever it is needed throughout the multistate area where Energy Harbor sells electricity. The upshot of Energy Harbor's omission to contextualize the Perry plant as one contributor to a large regional distribution grid leaves the LRA reader with the impression that Perry is a lonely power generation oasis in a vast desert, instead of one power plant among dozens within a transmission-grid region where electricity is pooled and sent coursing through PJM interconnections in multiple states, including and surrounding Ohio.

After Perry's owner announced in 2018 its formal intention to permanently shut down Perry by May 2020, hearings were held at the Ohio General Assembly on proposed H.B. 6, which would provide up to $1,500,000,000 to bail out Davis-Besse Nuclear Plant and PNPP, neither of which could, then or now, compete with electricity generated or conserved by non-nuclear means. At one Ohio Senate committee hearing, Asim Haque, Executive Director for Strategic Policy and External Affairs at PJM Interconnection, and formerly Chairman of the Ohio Public Utilities Commission, testified that "FirstEnergy Solutions' deactivation of those generating units is not expected to adversely impact the reliability of the PJM transmission system due to three remedial measures that PJM would take. . . ."[2]

It is self-evident from this statement that the regional transmission operator, PJM, was assuring the public and the General Assembly that there would be no shortage of electrical power nor any obstacle to PJM's continued provision of consistent and adequate electrical service

[2] Testimony of Asim J. Haque before Energy and Public Utilities Commission of Ohio Senate, June 5, 2019 https://www.documentcloud.org/documents/6131549-HB6AsimHaqueTestimony.html.

across its regional grid, following the permanent closures of Davis-Besse and Perry. However, Energy Harbor attempts to characterize PJM's pledge, not as a guarantee that there would be no electricity shortages, but as a comment on "regional energy *capacity.*" EH Answer p. 18 (Emphasis in origins). Despite providing no evidence at all of any prospective reliability problem within the PJM grid region, Energy Harbor accuses Petitioners of having provided no evidence of the "effect of the purchased power alternative on energy *reliability*." EH Answer p. 19 and fn. 83 (Emphasis in original). Energy Harbor thus deflects attention away from its completely unverified argument that future purchases of power to replace electricity formerly provided by PNPP would be fraught with "uncertainties in energy reliability, uncertainties created by the closure of coal-fired plants, and the potential that the environmental impacts associated with purchased power could exceed the impacts of license renewal." *Id*. at 18.

The PJM's role as overseer of the regional grid is to appropriately redirect the excess electricity produced in the PJM region to the places where power is needed. PJM's 2019 testimony, telling the Ohio General Assembly not to worry about any problems with the availability of electricity, exposed the redundancy of the grossly expensive power from Perry. FirstEnergy's literally criminal bribery campaign to enact the statutory bailout of Davis-Besse and Perry and Energy Harbor's misleading suggestion about the meaning of the 2019 PJM testimony reveals that PNPP's owner continues to conceal damning information and relate only the good news. But NEPA requires candor from Energy Harbor in both the consideration as well as the rejection of alternatives to the preferred project.

NRC's Supplement 1 to Regulatory Guide 4.2,[3] cited repeatedly by Energy Harbor as authority on the format and content of the environmental report,[4] advises that the regulations for

[3] https://www.nrc.gov/docs/ML0037/ML003710495.pdf
[4] Energy Harbor Answer, p. 17 fn. 78 and p. 21.

EIS treatment of alternatives require devotion to "substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits," and that the EIS must "[i]nclude reasonable alternatives not within the jurisdiction of the lead agency."[5] So Energy Harbor can't avoid having to provide serious investigation and discussion of the purchased power alternative by bemoaning "uncertainties in energy reliability that are not within Energy Harbor's control"[6] to justify its unsupported conclusion that purchased power is not a reasonable discrete alternative. Energy Harbor's discussion of alternatives to the continued operation of PNPP "should not be confined to information supporting the proposed action but should also include adverse information."[7]

All that is required at this stage is "a minimal showing that material facts are in dispute, thereby demonstrating that an 'inquiry in depth' is appropriate." *Gulf States Utilities Co.* (River Bend Station, Unit 1), CLI-94-10, 40 NRC 43, 51 (1994). They have met and exceeded the threshold.

Petitioners have properly stated an issue of fact and the contention must be admitted for hearing. According to 10 CFR § 51.103(a)(5), "In making a final decision on a license renewal action pursuant to Part 54 of this chapter, the Commission shall determine whether or not the adverse environmental impacts of license renewal are so great that preserving the option of license renewal for energy planning decision makers would be unreasonable." In support of Contention 2, the Petitioners showed that PJM, an important energy planning decision maker, had formulated plans in 2018-2019 to assure grid reliability and electricity supply once PNPP were permanently shut down. In other words, PJM demonstrated the reasonableness of *not* preserving PNPP license renewal as an option. Energy Harbor tries to undermine the PJM

[5] *Id*. at p. 57/60 of .pdf.
[6] EH Answer, p. 18.
[7] 10 CFR § 51.45(e).

arrangements for a post-PNPP world by deriding them as steps toward grid reliability and not electricity supply reliability. But the PJM showing augurs in favor of admitting Contention 2 for adjudication. Through an evidentiary hearing, Petitioners may create a formal record depicting the voodoo economics and associated environmental effects of keeping Perry open for 20 more years versus replacing it with purchased power.

Reply in Support of Contention 3: PNPP's Tritium Problem

In Contention 3, Petitioners allege among other things that the LRA and ER do not contain analysis of the potentially additive or synergistic effects of tritium and other radionuclides that leak or are emitted with tritium in Lake Erie water, where there are toxic industrial chemicals such as PCBs, as well as pesticides and herbicides. There is no recognition nor scientific discussion of the additive or synergistic relationships that might exist between tritium and other leaked radionuclides and the biocide chemicals used to kill mollusks and other aquatic beings around the water intake and discharge into Lake Erie.

The NRC Staff conceded by answer that Petitioners had stated a possibly admissible contention on the issue of unacknowledged synergistic effects involving tritium and nonradioactive chemicals:

> Regarding the Petitioners' claim regarding potential additive and synergistic effects between tritium and chemical pollutants in Lake Erie, this issue is not specifically designated as either Category 1 or Category 2 in the 2013 GEIS or in Appendix B to 10 C.F.R. Part 51. However, the Petitioners treat potential additive and synergistic effects as cumulative impacts, a Category 2 issue. For this reason, claims related to this issue are not barred by 10 C.F.R. § 2.335 as impermissible challenges to NRC regulations.[8]

[8] NRC Answer p. 46.

But the NRC Staff then argued that "[t]he Petitioners have, however, submitted neither technical support for their claims that such effects are an issue, nor legal argument supporting their assertion that an analysis of these effects is required in the Applicant's ER."[9]

Energy Harbor does not mention or respond as to the issue of uninvestigated synergistic lake chemistry anywhere in its Answer.

The NRC Staff is incorrect in each of its assertions. Petitioners indisputably did submit technical support for their claims that synergistic effects are an issue. At p. 41 of the Petition for Leave to Intervene, Petitioners set forth the below technical support. The footnotes are original and they reference statements and sources cited in NUREG-1437, the "Generic Environmental Impact Statement for License Renewal of Nuclear Plants:"

> Nuclear power plants also affect aquatic organisms through radiological and non radiological chemical releases. Chemical effects on aquatic biota can occur from exposure to biocides and other contaminants. Blowdown from closed-cycle cooling systems can contain concentrated levels of constituents present in the makeup water, residual biocides, process contaminants, and other chemicals added for controlling corrosion or deposits (DOE 1997a).[10] Radionuclides are released to aquatic systems at or below permitted levels at nuclear power plants (10 CFR Part 20, Appendix B). Radionuclides can be environmentally significant because they have a strong tendency to adsorb onto particles (*e.g.*, suspended and settled solids), can accumulate in biological organisms, or can be concentrated through trophic transfers (MDNR 2019).[11] Radionuclides, such as tritium, and other constituents in cooling water systems, such as biocides, can enter aquatic systems and be taken up by aquatic plants and animals.[12]

Petitioners obviously do remark on the ways by which radionuclides emitting from PNPP into offshore waters can attach and mix with physical solids or be absorbed into living organisms, where non-radioactive contaminants of concern are also found. At p. 45 of their Petition, the

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[9] *Id*. at pp. 46-47.
[10] "Generic Environmental Impact Statement for License Renewal of Nuclear Plants," NUREG-1437. Vol. 1, Rev. 2, p. 3-58 (Draft 2022) (ML22165A006).
[11] *Id.*
[12] *Id.*

Petitioners point to long-time "contaminants of concern" found in the waters throughout the Lake Erie Basin (footnotes in original) which are likely to mix with tritium:

> There are longstanding contaminants of concern dispersed throughout the Lake Erie Basin, as measured in chemical sampling of the flesh of Erie's abundant game fish. The recurring principal toxins are mercury, PCBs, DDT, chlordane, and dieldrin.[13] The widespread human consumption advisories for fish for decades in the Lake Erie Basin have prompted USEPA and Environment Canada to try to clean up and eliminate mercury and PCBs (Daher, 1999).[14] PCB contamination in fish is the cause of many human health impairments in Ohio, followed by mercury.[15]

As for the NRC Staff's claimed lack of "legal argument supporting their assertion that an analysis of these effects is required in the Applicant's ER," the Staff again is incorrect. At pp. 44-45 of their Petition, the Petitioners argue as follows:

> NEPA requires the evaluation of projects which are likely to be accompanied by significant environmental events to be based, in part, on potential or actual public health effects, and also for the assessment of direct and indirect project impacts to be cumulative. NEPA requires "an agency to evaluate 'cumulative impacts' along with the direct and indirect impacts of a proposed action." *TOMAC, Taxpayers of Michigan Against Casinos v. Norton*, 433 F.3d 852, 864 (D.C. Cir. 2006) (citing *Grand Canyon Tr. v. FAA*, 290 F.3d 339, 345 (D.C. Cir. 2002)). A cumulative impact is "the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." 40 C.F.R. § 1508.7.
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> NRC regulations explicitly require the environmental report to include "an analysis of the cumulative impacts of the proposed action when added to the impacts of such excluded site preparation activities on the human environment." 10 CFR § 51.45(c). And 10 CFR § 51.14(b) incorporates into NRC regulations the Council on Environmental Quality mandate that environmental impact statements include "impacts, which may be cumulative" within their scope. 40 CFR § 1508.25(c).

Regarding the obligatory nature under NEPA that synergistic effects be considered, at p. 46 of their Petition, the Petitioners argue that:

> The U.S. Supreme Court has interpreted NEPA to require consideration of "cumulative or synergistic environmental impact." *Kleppe v. Sierra Club*, 427 U.S. 390, 410 (1976). Although *Kleppe* was focused on programmatic review, the Court recognized

[13] Myers *et al*., "Water Quality in the Lake Erie-Lake Saint Clair Drainages (Michigan, Ohio, Indiana, New York, and Pennsylvania, 1996–98, https://pubs.usgs.gov/circ/circ1203/major_findings2.htm
[14] *Id.*
[15] *Id.* p. ES-1.

> the importance of considering the collective environmental effects of agency actions to inform the decision-making process. *Id.* ("Only through comprehensive consideration of pending proposals can the agency evaluate different courses of action.").

Once again, Petitioners have met, or exceeded the contention-pleading requirements set by the NRC. The contention is specifically stated and has a basis. It is not for the ASLB to entertain arguments about the truth or falsity or the averments of the contention at this point. *Washington Public Power Supply System* (WPPSS Nuclear Project No. 2), ALAB-722, 17 NRC 546, 551 n.5 (1983), citing *Houston Lighting and Power Co*. (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542 (1980); *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-869, 26 NRC 13, 23-24 (1987), *reconsid. denied on other grounds,* ALAB-876, 26 NRC 277 (1987).

The factual support needed here need not be in formal evidentiary form, nor, contrary to the urgings of Energy Harbor and the NRC Staff, does it need to be as strong as that necessary to withstand a summary disposition motion. *All* that is required is "a minimal showing that material facts are in dispute, thereby demonstrating that an 'inquiry in depth' is appropriate." *Gulf States Utilities Co.* (River Bend Station, Unit 1), CLI-94-10, 40 NRC 43, 51 (1994) (citing "Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process," 54 Fed. Reg. 33,168, 33,171 (Aug. 11, 1989), quoting *Connecticut Bankers Association v. Board of Governors*, 627 F.2d 245 (D.C. Cir. 1980). Petitioners showed evidence of a material factual dispute regarding Contention 3, and the contention therefore should be admitted for trial on the merits.

WHEREFORE, Ohio Nuclear-Free Network and Beyond Nuclear pray the Nuclear Regulatory Commission admit Contentions 2 and 3 for adjudication.

Respectfully submitted,

/s/ Terry J. Lodge
Terry J. Lodge, Esq. (Ohio S.Ct. No. 0029271)
316 N. Michigan St., Ste. 520
Toledo, OH 43604-5627
(419) 205-7084
tjlodge50@yahoo.com
Counsel for Petitioners Ohio Nuclear-Free Network and Beyond Nuclear

CERTIFICATE OF SERVICE

Pursuant to 10 CFR § 2.305, I hereby certify that a copy of the foregoing "Reply in Support of Petition for Leave to Intervene and Request for Hearing" was served upon the Electronic Information Exchange (NRC Filing System) in the captioned proceeding this 2nd day of January, 2024 and that according to the protocols of the system, all parties and counsel of record registered with the system were electronically served.

Respectfully submitted,

/s/ Terry J. Lodge
Terry J. Lodge, Esq. (Ohio S.Ct. No. 0029271)
Counsel for Petitioners Ohio Nuclear-Free Network and Beyond Nuclear