ORAL ARGUMENT NOT YET SCHEDULED

Case No. 21-1162

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

OHIO NUCLEAR-FREE NETWORK and BEYOND NUCLEAR,
Petitioners,

v.

UNITED STATES NUCLEAR REGULATORY COMMISSION and the UNITED STATES OF AMERICA,
Respondents

On Petition for Review of Action by the
Nuclear Regulatory Commission

PETITIONERS' SECOND CORRECTED PROOF BRIEF

Terry J. Lodge, Esq.
316 N. Michigan St., Suite 520
Toledo, OH 43604-5627
(419) 205-7084
Fax: (419) 932-6625
Emails: tjlodge50@yahoo.com
lodgelaw@yahoo.com

Wallace L. Taylor, Esq.
Law Offices of Wallace L. Taylor
4403 1st Ave. S.E., Suite 402
Cedar Rapids, Iowa 52402
319-366-2428
Fax: 319-366-3886
E-mail: wtaylorlaw@aol.com

Co-Counsel for Petitioners

CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to Circuit Rule 28, Petitioners Ohio Nuclear-Free Network and Beyond Nuclear ("Petitioners") hereby certify as follows:

1. Parties and *Amici Curiae*

The Petitioners are Ohio Nuclear-Free Network and Beyond Nuclear. The Respondents are the United States Nuclear Regulatory Commission (NRC or Commission) and the United States of America. There are no *amici*.

2. Rulings Under Review

- "Environmental Assessment and Finding Of No Significant Impact for the American Centrifuge Plant HALEU Demonstration Program License Amendment" (NRC ADAMS ML21085A705). The EA/FONSI was published at 86 Federal Register 31539 (June 14, 2021) and is reproduced at Apx. ____.
- Nuclear Regulatory Commission Approval Letter dated June 11, 2021 (NRC ADAMS ML21138A827). By the Approval Letter, the NRC approved amendments to two NRC licenses, SNM-7003 and SNM-2011, respectively. There is no other official citation to the ruling. The Approval Letter is reproduced at Apx. _____.
- Nuclear Regulatory Commission Materials License issued on June 11, 2021 (ADAMS ML21138A828). There is no other official citation to the ruling. The Materials License is reproduced at Apx. _____,

3. Related Cases.

There are no related cases. This matter has not been litigated in any court prior to this Petition for Review proceeding.

/s/ Terry J. Lodge
Terry J. Lodge, Esq.
316 N. Michigan St., Suite 520
Toledo, OH 43604-5627
(419) 205-7084
Fax: (419) 932-6625
Email: tjlodge50@yahoo.com
lodgelaw@yahoo.com
Co-counsel for Petitioners

RULE 26.1 DISCLOSURE STATEMENT

Pursuant to Fed. R. App. P. 26.1 and D.C. Cir. Rule 26.1, Petitioners provide the following corporate disclosure statement.

Petitioner Ohio Nuclear-Free Network is an unincorporated association of persons located in Ohio whose members have no ownership interests. None of its members have issued shares or debt securities to the public.

Beyond Nuclear is a non-profit corporation organized and existing under the laws of the State of Maryland as a Section 501(c)(3) membership organization that aims to educate and activate the public about the connections between nuclear power and nuclear weapons and the need to abandon both to safeguard our future. Petitioner Beyond Nuclear does not have any parent companies, nor outstanding shares or debt securities in the hands of the public, nor any parent, subsidiary, or affiliates that have issued shares or debt securities to the public.

/s/ Terry J. Lodge
Terry J. Lodge, Esq.
316 N. Michigan St., Suite 520
Toledo, OH 43604-5627
(419) 205-7084
Fax: (419) 932-6625
Email: tjlodge50@yahoo.com
lodgelaw@yahoo.com
Co-Counsel for Petitioners

TABLE OF CONTENTS

CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES i

RULE 26.1 DISCLOSURE STATEMENT ii

TABLE OF AUTHORITIES v

GLOSSARY viii

JURISDICTIONAL STATEMENT 1

STATEMENT OF ISSUES PRESENTED FOR REVIEW 2

STATEMENT OF THE CASE 3

SUMMARY OF THE ARGUMENT 12
I. Petitioners are Proper Parties to Bring This Action Pursuant to NEPA 12
II. The NRC Violated NEPA By Issuance of the EA/FONSI Instead of Compiling an Environmental Impact Statement 14
III. The NRC Should Be Required to Prepare an EIS or Programmatic EIS for the Centrifuge Plant License Amendment Application 14

STANDING 16

ARGUMENT
I. Petitioners are Proper Parties to Bring This Action Pursuant to NEPA 21
II. The NRC Violated NEPA By Issuance of the EA/FONSI instead of compiling an Environmental Impact Statement 30
III. The NRC Should Be Required to Prepare an EIS or Programmatic EIS for the American Centrifuge Operating License Amendment Application 38

CONCLUSION 46

CERTIFICATE OF SERVICE 47

CERTIFICATE OF COMPLIANCE 48

PETITIONERS' DESIGNATION OF ITEMS FOR INCLUSION IN DEFERRED APPENDIX 48

ADDENDUM

(NEPA) 42 U.S.C. § 4332(C)

40 CFR § 1502.4 – Major Federal actions requiring the preparation of environmental impact statements.

(AEA) 42 U.S.C. § 2239(a)(1)(A)

10 CFR § 2.309 Hearing requests, petitions to intervene, requirements for standing, and contentions.

Declaration of Pat Marida, Ohio Nuclear-Free Network

Declaration of Tressie Hall

Declaration of Kevin Kamps, Beyond Nuclear

Declaration of Vina Colley

TABLE OF AUTHORITIES

Judicial Decisions	**Page**
ACA Int'l. v. FCC, 885 F.3d 687 (D.C.Cir. 2018)	24
ACLU v. FCC, 774 F.2d 24 (1st Cir. 1985)	23
Am. Trucking Ass'ns, Inc v. FMCSA, 724 F.3d 243 (D.C. Cir. 2013)	24
Baltimore Gas & Electric Co. v. NRDC, 462 U.S. 87, 103 S.Ct. 2246 (1983)	38
Birckhead v. FERC, 925 F.3d 510 (D.C. Cir. 2019)	38
Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208 (9th Cir.1998)	43
Churchill County v. Norton, 276 F.3d 1060 (9th Cir. 2001)	42, 43
Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402 (1971)	46
Clark & Reid Co. v. United States, 804 F.2d 3 (1st Cir. 1986)	23
Coalition on Sensible Transp., Inc. v. Dole, 826 F.2d 60 (D.C. Cir. 1987)	36
Duke Power Co. v. Carolina Environmental Study Group, 438 U.S. 59 (1978)	21
Foundation on Economic Trends v. Heckler, 756 F.2d 143 (D.C. Cir. 1985)	42
Friends of the Earth v. Laidlaw, 528 U.S. 167, 120 S.Ct. 693 (2000)	19
Gage v. AEC, 479 F.2d 1214 (D.C.Cir. 1973)	24
Grand Canyon Trust v. FAA, 290 F.3d 339 (D.C. Cir. 2002)	36
Kleppe v. Sierra Club, 427 U.S. 390 (1976)	42
LaFlamme v. FERC, 852 F.2d 389 (9th Cir. 1988)	43
Limerick Ecology Action, Inc. v. Nuclear Regulatory Commission, 869 F.2d 719 (3d Cir. 1989)	28
Los Angeles v. Lyons, 461 U.S. 95, 102 (1983)	20
Massachusetts v. United States, 522 F.3d 115 (1st Cir. 2008)	25, 26
Motor Vehicle Manufacturers Ass'n, Inc. v. State Farm Mutual Automobile Insurance Co., 463 U.S. 29, 103 S.Ct. 2856 (1983)	38
NASUCA v. FCC, 457 F.3d 1238 (11th Cir. 2006)	24
Nat'l Wildlife Fed'n v. Appalachian Reg'l Comm'n, 677 F.2d 883 (D.C. Cir. 1981)	42, 43
Natural Resources Defense Council, Inc. v. Callaway, 524 F.2d 79 (2d Cir. 1975)	45
Nevada v. Department of Energy, 457 F.3d 78 (D.C. Cir. 2006)	30, 38
NRDC v. EPA, 755 F.3d 1010 (D.C. Cir. 2014)	18
Oglala Sioux Tribe v. U.S. Nuclear Regulatory Comm'n, 896 F.3d 520 (D.C. Cir. 2018)	29

Olivares v. Trans. Sec. Admin., 819 F.3d 454 (D.C. Cir. 2016) 22

Reyblatt v. NRC, 105 F.3d 715 (D.C.Cir. 1997) 23, 24
San Luis Obispo Mothers for Peace v. NRC, 449 F.3d 1016 (9th Cir. 2006)` 33, 34
Scientists' Institute for Public Information, Inc. v. AEC, 481 F.2d 1079 (D.C. Cir. 1973) 32
Sierra Club v. EPA, 292 F.3d 895 (D.C. Cir. 2002) 17
Sierra Club v. Hodel, 848 F.2d 1068 (10th Cir. 1988) 39
Sierra Club v. Morton, 405 U.S. 727 (1972) 20
Sierra Club v. Peterson, 717 F.2d 1409 (D.C. Cir. 1983) 30, 31
Simon v. Eastern Kentucky Welfare Rights Org., 426 U.S. 26 (1976) 20
Simmons v. ICC, 230 U.S.App.D.C. 236, 716 F.2d 40 (1983) 23
United States v. S. Fla. Water Mgmt. Dist., 28 F.3d 1563 (11th Cir. 1994) 39
Warth v. Seldin, 422 U.S. 490 (1975) 20
Water Transp. Ass'n v. ICC, 819 F.2d 1189 (D.C.Cir. 1987) 23
West Michigan Environmental Action Council v. AEC, Dkt . No . G-58-73 (W.D. Mich. 1974) 32

Administrative Decisions

Crow Butte Resources, Inc., 83 NRC 340 (2016) 29
Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2) CLI-03-14, 58 NRC 207, 216 (2003) 21
Sequoyah Fuels Corp. and General Atomics (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64 (1994) 20
Shaw Areva MOX Services, 66 NRC 169, LBP-07-14 (2007) 20
Strata Energy, Inc., 83 NRC 566 (2016) 29
U.S. Army Installation Command (Schofield Barracks, Oahu, Hawaii, and Pohakuloa Training Area, Island of Hawaii, Hawaii), CLI-10-20, 71 NRC 216 (2010) 21
USEC, Inc. (American Centrifuge Plant), CLI-05-11, 61 NRC 309 (2005) 21

Statutes

5 U.S.C. § 706 1, 46
28 U.S.C. § 2342 2
28 U.S.C. § 2344 2, 12, 21, 22, 26, 27
42 U.S.C. § 2011 1
42 U.S.C. § 2239 2

42 U.S.C. § 4321 1
42 U.S.C § 4332(2)(C) 38

Regulations

10 CFR § 2.309 12, 22, 26
40 CFR § 1501.4 27
40 CFR § 1501.6 27
40 C.F.R. § 1502.4 40, 41
40 CFR §1508.1 39

Treatises

Daniel Mandelkar, *et al.*, NEPA Law and Litigation (2021 Edition) 37

GLOSSARY

AEA - Atomic Energy Act
APA - Administrative Procedure Act
CEQ - Council on Environmental Quality
DOE - Department of Energy
EA - Environmental Assessment
EIS - Environmental Impact Statement
NEPA - National Environmental Policy Act
NRC - Nuclear Regulatory Commission
ONFN - Ohio Nuclear Free Network
Programmatic EIS - Programmatic Environmental Impact Statement
Uranium-235 or U-235 - A naturally-occurring isotope of Uranium

JURISDICTIONAL STATEMENT

Petitioners seek judicial review of the determination by the Nuclear Regulatory Commission (NRC) to allow a license amendment contemporaneously to issuance of an Environmental Assessment and Finding of No Significant Impact (EA/FONSI). A request by American Centrifuge Operating LLC to amend its current NRC license was granted by the NRC pursuant to the Atomic Energy Act (42 U.S.C. § 2011 *et seq*.). The purpose of the amendment was to allow enrichment of uranium above the Uranium-235 enrichment limits specified in the existing license.

The NRC issued the EA/FONSI pursuant to the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 *et seq*. Judicial review of the sufficiency of an EA/FONSI is available under the Administrative Procedure Act (APA), 5 U.S.C. § 706. Because the Environmental Assessment and the Finding of No Significant Impact are ancillary to the license amendment, jurisdiction to review them lies exclusively with the courts of appeals. *Citizens Awareness Network, Inc. v. Nuclear Regulatory Commission,* 854 F.Supp. 16, 17 (D.Mass. 1994) (under the Hobbs Act, "decisions that are ancillary to licensing decisions may be challenged only in the court of appeals") (citing *Florida Power & Light v. Lorion*, 470 U.S. 729, 743, 84 L.Ed.2d 643 (1985)); also, *Foti v. INS*, 375 U. S. 217, 227, 232

(1963) (review of orders resolving issues preliminary or ancillary to the core issue in a proceeding should be reviewed in the same forum as the final order resolving the core issue).

The Court has jurisdiction of this Petition for Review pursuant to 28 U.S.C. § 2342(4), which confides review jurisdiction in the circuit courts of all final determinations of the Nuclear Regulatory Commission (as successor to the Atomic Energy Commission) which are made reviewable under 42 U.S.C. § 2239 (including "the . . . amending of any license.").

This Petition was timely brought, and venue is proper, under the Hobbs Act, 28 U.S.C. § 2344. The EA/FONSI was issued on June 7, 2021. Petitioners filed their Petition for Review on August 2, 2021, within the 60-day time period allowed by statute.

STATEMENT OF ISSUES PRESENTED FOR REVIEW

1) Whether the Petitioners are proper parties with organizational standing to bring this action pursuant to NEPA.

2) Whether the requirements of the National Environmental Policy Act are subsumed into the Atomic Energy Act, which requires the filing of a petition for leave to intervene and imposes standards for the admissibility of contentions raised by the intervenor, or whether NEPA is an ancillary decision made as part of

the overall license determination rendered by the Nuclear Regulatory Commission.

3) Whether the NRC violated NEPA when it issued an Environmental Assessment and Finding of No Significant Impact (EA/FONSI) instead of compiling an Environmental Impact Statement (EIS) or Programmatic Environmental Impact Statement (Programmatic EIS).

4) Whether the alleged facts and circumstances of NEPA violations may be remedied by preparation of an EIS or a Programmatic EIS for the underlying License Amendment application.

STATEMENT OF THE CASE

The core issue of this Petition for Review is whether the U.S. Nuclear Regulatory Commission properly discharged its obligations under the National Environmental Policy Act concerning an obscure license amendment to allow the manufacture of a wholly new, more energy-dense uranium fuel for next-generation commercial nuclear power reactors – a new fuel type that raises concerns over the possibilities of nuclear weapons proliferation and terrorism, as well as questions about the environmental impacts on the U.S. domestic nuclear mining and processing supply chain.

The American Centrifuge Operating LLC plant, located on U.S. Department of Energy-owned land near Piketon, Ohio at the site of the Portsmouth Gaseous

Diffusion Facility, or PORTS is the location of industrial uranium enrichment processing going back many years.

In May 2019, the Department of Energy and American Centrifuge Operating LLC, a subsidiary of Centrus Energy Corp. (Centrus), signed a 3-year letter contract worth $115 million for the purpose demonstrating production of high-assay low-enriched uranium at the centrifuge facility.[1] In April and May 2020, American Centrifuge Operating LLC applied to the U.S. Nuclear Regulatory Commission (NRC) to amend Special Nuclear Materials License Number SNM-2011 for the American Centrifuge Plant. (EA/FONSI, Index[2] 81 p. 1; Apx. __). The purpose of the amendment was to obtain NRC authorization to allow American Centrifuge Operating LLC to enrich uranium fuel to a higher proportion of the isotope U-235 for use in advanced or small modular reactors, which are presently in the design stage and not yet operational. Several, perhaps most, small modular designs will require high-assay low-enriched uranium fuel. *Id.*

The contract with DOE stipulates that American Centrifuge Operating LLC will provide DOE with up to 600 kilograms of high-assay low-enriched uranium in

---

[1]https://www.nrc.gov/materials/fuel-cycle-fac/usecfacility.html#high

[2]"Index" refers to the Certified Index to the Record, Doc. #1914865 filed in this case by Respondents on September 20, 2021.

the form of uranium hexafluoride (UF6) for use in research and development for the civilian nuclear energy sector. (Index 81, p. 4; Apx. __). The NRC originally licensed the American Centrifuge Plant at the request of the United States Enrichment Corporation, Inc., which after business restructuring became Centrus. The NRC license was transferred to a subsidiary of Centrus and is now maintained by Centrus. American Centrifuge Operating LLC will operate the high-assay low-enriched uranium cascade in existing buildings on grounds at the diffusion facility site that are owned by DOE and leased by United States Enrichment Corporation. *Id.*

The ultimate size and timing of the high-assay low-enriched uranium project, according to the EA/FONSI, is somewhat open-ended. Centrus expects to achieve commercial success from the venture, and in order to have adequate high-assay low-enriched uranium inventories for commercial sale, will seek another NRC license amendment to manufacture high-assay low-enriched uranium for up to 10 years beyond the initial three-year demonstration contract with DOE. The NRC deemed that expectation to be "reasonably foreseeable" and covered by the Environmental Assessment:

> If operation of the cascade supports the feasibility of commercial production of HALEU, ACO [American Centrifuge Operating] anticipates requesting a license amendment for commercial production to meet the potential market

> demand. Although the commercial demand for HALEU is uncertain at this time, ACO has indicated an interest in operating the HALEU cascade beyond the 3-year DOE contract. To obtain approval for additional operation, ACO [American Centrifuge Operating] anticipates submitting a license amendment request (LAR) during calendar year 2021. While the time period for the extension is not certain, ACO has indicated that it would not be more than 10 years (ACO, 2021). *Because this action is reasonably foreseeable, the impacts of operation beyond the expiration of the contract in May 2022 are considered during this review.*

(EA/FONSI, Index 81, p. 1; Apx. __) (Emphasis added). Consequently, the Environmental Assessment purports to cover 13 years of high-assay low-enriched uranium enrichment activity.

This anticipated ten-year extended operation period is repeatedly referenced in the EA/FONSI:

> Although the LAR [license amendment request] requests authorization to operate the HALEU cascade to enrich uranium-235 to a higher enrichment level over a three-year period, ACO [American Centrifuge Operating] has stated that it will submit an additional license amendment for authorization to operate the HALEU cascade for an additional period of up to 10 years. (2020 LAR, 2021 consolidated ER). Because this action is reasonably foreseeable, *the environmental impacts from up to an additional 10 years of operation are considered in this EA.*

(Index 81, p. 4; Apx. __) (Emphasis added).

> For the anticipated license amendment request, impacts due to radiological emissions or potential onsite or offsite doses are not expected to change *due to an additional period of operation of up to 10 years.* Therefore, the extended period of operation would not result in a significant increase in estimated radiological doses or in emissions.

(Index 81, p 18; Apx. __). (Emphasis added).

> The licensee expects to submit a LAR [license amendment request] in 2021 to extend operation of the HALEU cascade for a period of up to 10-years. The purpose of this extension would be to continue to produce HALEU fuel product in preparation for commercial sales. Although the LAR requests authorization to operate the HALEU cascade to enrich uranium-235 to a higher enrichment level over a three-year period, ACO [American Centrifuge Operating] has stated that it will submit an additional license amendment for authorization to operate the HALEU cascade *for an additional period of up to 10 years*. (2020 LAR, 2021 consolidated ER). *Because this action is reasonably foreseeable, the environmental impacts from up to an additional 10 years of operation are considered in this EA.*

(Index 81, p. 21; Apx. __) (Emphasis added).

American Centrifuge Operating's Revised License Application (RLA) request reveals that while the scope of the high-assay low-enriched uranium project is supposedly limited to the construction and operation of 16 total centrifuges, that it's much broader. American Centrifuge Operating has the capability of installing centrifuges in increments in its plant up to a capacity of 3.8 million Separative Work Units (SWU) of production annually. (License Application, Index 29, p. 1; Apx. __). Centrus intends "to deploy portions of the [American Centrifuge Project] in a modular fashion to accommodate market demand on a scalable, economical gradation. This modular deployment will encompass utilization of cascades for LEU [low-enriched uranium] production for customer product or feed material into HALEU [high-assay low-enriched uranium]

cascades." (Index 29, p. 1-2; Apx. __).

The major departure in fuel enrichment activities at the facility is that high-assay low-enriched uranium will have much more Uranium-235 content than is found in today's conventional commercial nuclear reactors. American Centrifuge Operating's current NRC license authorizes the enrichment of uranium to less than 10% Uranium-235 content, but the license amendment for the DOE contract to produce high-assay low-enriched uranium allows American Centrifuge Operating to enrich uranium up to 25% Uranium-235 content. (Index 81, p. 3; Apx. _).

Citing to no authority at all, the NRC inaccurately stated as a conclusion in the Environmental Assessment that "25 percent is far below the level required to make weapons or to power U.S. submarines and aircraft carriers, and for these reasons the enrichment level does not raise any security or proliferation concerns." *Id.* There is no further reference to nuclear weapons proliferation in the EA/FONSI.

However, Uranium enriched to greater than 20% Uranium-235 content is classified by the NRC as "high-enriched uranium."[3] High-enriched uranium can be directly used to make thermonuclear weapons and poses commensurately greater nuclear weapons proliferation concerns than nuclear fuel enriched to a level below

[3]https://www.nrc.gov/reading-rm/basic-ref/glossary/high-enriched-uranium.html

20%. Petitioners argue – and commented in written form to the NRC before the EA and FONSI were published – that since American Centrifuge Operating's high-assay low-enriched uranium will actually be high enriched uranium, the NRC must conduct a nuclear weapons proliferation assessment under NEPA. (Comment Letter, Index 55, pp. 2-3; Apx. __). The rationale for Petitioners' request is that the high-assay low-enriched uranium may be attractive for theft and trafficking by countries or organizations desirous of having high-enriched uranium, which is either directly usable in a thermonuclear weapon, or can be enriched and thus concentrated even further with comparatively little effort (Index 55, pp. 2-3; Apx. __) (citing Union of Concerned Scientists analysis).

The NRC issued the high-assay low-enriched uranium EA/FONSI on June 7, 2021. (Index 81; Apx. ___). The agency gave no public notice that it was compiling the document, did not circulate it publicly to any other federal agencies for comment, and did not solicit public comments on the EA/FONSI before publishing it as final. The resulting EA/FONSI is apparently the first and only assessment of direct and indirect environmental impacts that will be conducted before there is large-scale production of high-assay low-enriched uranium using hundreds or thousands of centrifuges at the American Centrifuge Plant.

In the Finding of No Significant Impact, the NRC "concluded that the

proposed action, amendment of NRC license SNM-2011 for the American Centrifuge Co., LLC, located in Piketon, Ohio, will not significantly affect the quality of the human environment. Therefore, the NRC has determined, pursuant to 10 CFR 51.31, that preparation of an EIS is not required for the proposed action and a FONSI is appropriate." "American Centrifuge Operating, LLC; American Centrifuge Plant," 86 Fed. Reg. 31,539 (June 14, 2021). (Index ___; Apx. __). The NRC issued an approval letter along with redacted and unredacted versions of the amended license to American Centrifuge Operating on June 11, 2021. (Index 83, 88, 89; Apx. __).

Petitioners' counsel learned only by chance, in February 2021, that American Centrifuge Operating had submitted a license amendment request to the NRC. Because the Petitioners had no idea whether the NRC would seek public comment on its NEPA documentation, Petitioners sent their lengthy comment letter to the NRC on March 30, 2021, expressing concerns on issues of nuclear proliferation and terrorism and calling for attention under NEPA to the probable environmental impacts on the U.S. uranium mining industry as a consequence of the switch to high-assay low-enriched uranium as a primary reactor fuel. (Comment Letter, Index 55; Apx. __). The letter was cosigned by some 100 environmental, social justice and nuclear weapons abolition organizations from

across the United States. *Id.*

As noted, Petitioners asserted that uranium enriched to 20%-25% is "highly enriched uranium," which is directly usable in nuclear weapons. The Petitioners cited weapons proliferation potential as a possible outcome of high-assay low-enriched uranium production because of the anticipated design and construction of small modular reactors, also called advanced nuclear reactors) by U.S. and global entrepreneurs for global export. (Index 55, pp. 1-2; Apx. __). The Petitioners also pointed out the scoping inconsistency that Centrus was starting out with 16 centrifuges but sought to "have a fully licensed, operable high-assay low-enriched uranium production capability at a small scale that could be expanded modularly to meet commercial and/or government requirements for HALEU." *Id.*

The Petitioners also requested the NRC to include in the NEPA document an investigation into public health and environmental justice burdens caused by expected increased domestic uranium mining which would be caused by DOE's planned governmental incentives. Petitioners maintain that a major government-led commitment to the production of high-assay low-enriched uranium would result in generation of large volumes of uranium mining and mill tailings along with depleted uranium waste in the western United States, and that renewed extraction would have particular effects on indigenous peoples and others. (Index

55, p. 1; Apx. __). The letter's authors also called for an EIS or Programmatic EIS for the project. (*Id*., pp. 2-3; Apx. __).

The NRC did not consider Petitioners' comments and request for an EIS or Programmatic EIS. On May 28, 2021, the agency sent an e-mail to Petitioners' counsel, stating its intention to issue the EA and to make a final decision on the license amendment in June 2021. There was no mention of any plan to involve the public prior to its final issuance and no response to Petitioners' request for an EIS or Programmatic EIS. (Faraz Email, Index 62; Apx. __). Neither the NRC's Environmental Assessment nor the Finding of No Significant Impact refer to the issues raised by the Petitioners' comment letter (Index 81; Apx. __).

The EA/FONSI, NRC approval letter, and amended license were issued on and after June 7, 2021. Petitioners Ohio Nuclear-Free Network and Beyond Nuclear filed their Petition in this Court under the Administrative Procedure Act on August 2, 2021, within the 60-day period allowed by statute.

SUMMARY OF THE ARGUMENT

I. Petitioners are Proper Parties to Bring This Action Pursuant to NEPA

The NRC maintains that the only type of proceeding that could have been brought to challenge the EA/FONSI was a petition for leave to intervene brought pursuant to 10 CFR § 2.309, a regulation promulgated on the authority of the

Atomic Energy Act. That is the gravamen of the NRC/United States' Motion to Dismiss.

Ohio Nuclear-Free Network and Beyond Nuclear urge that under the Hobbs Act, 28 U.S.C. § 2344, they must seek judicial review of the NRC's licensing action and ancillary proceedings in the federal courts of appeal, and that the Court, not the NRC, has the sole power to determine its own jurisdiction based on the facts and law. NEPA, they say, is a separate statute from the AEA which involves identification and analysis of direct and indirect environmental impacts foreseeable from high-enriched low-assay uranium manufacturing.

Petitioners argue that the Atomic Energy Act is being used to thwart the aims of the National Environmental Policy Act. NEPA involves publication of a draft environmental document by the agency for the public to comment on, and if the agency declines to modify the NEPA document in response to the comments, then members of the public who have established "party" status by commenting can challenge the adequacy of the agency's compliance with NEPA as a "party aggrieved" under the Hobbs Act.

The Petitioners in this case submitted a lengthy comment letter endorsed by over 100 grassroots groups, principally environmentalists and nuclear weapons activists, requesting that an Environmental Impact Statement or a Programmatic

EIS be prepared, but the NRC issued an Environmental Assessment with a Finding of No Significant Impact. The entire NRC compilation of the EA/FONSI was conducted out of public view and the EA/FONSI was published as a final agency determination. There was no public comment opportunity at all, but Petitioners assert that by taking considerable steps to provide comments to the agency, they may now challenge the NEPA conclusion in this Court.

By contrast, the NRC's petitioning process, claim the Petitioners, requires submission of NEPA-related contentions which must meet exacting requirements of pleading and may be rejected by the NRC's internal administrative licensing boards and adjudication denied, which excuses the agency from having to reconsider the adequacy of the NEPA document. The NRC appears to be an outlier in terms of the unique barriers its regulations pose to the public's conducting of NEPA-related litigation before the agency.

II. The NRC Violated NEPA By Issuance of the EA/FONSI Instead of Compiling an Environmental Impact Statement

High-assay low-enriched uranium poses a nuclear weapons proliferation risk which may become very important if Small Modular Reactors that use high-assay low-enriched uranium fuel are exported in large numbers from the U.S. The Petitioners provided explicit comments on this prospect also asked the NRC to

consider under NEPA the effects of a potentially burgeoning high-assay low-enriched uranium production industry on domestic uranium supplies and extraction.

High-assay low-enriched uranium fuel is part of a planned major redirection of the U.S. nuclear reactor industry, with an entirely new generation of Small Modular Reactors anticipated to be marketed globally. Because the potential environmental impacts are different from earlier NEPA studies of nuclear fuel enrichment at the centrifuge facility, an EIS is warranted. The Uranium-235 content of high-assay low-enriched uranium will be at least four times more concentrated than in current nuclear reactor fuel. High-assay low-enriched uranium may be immediately adapted to make thermonuclear weapons. That different characteristic represents a clear departure from prior federal government-sponsored uranium enrichment.

III. The NRC Should Be Required to Prepare an EIS or Programmatic EIS for the American Centrifuge Operating License Amendment Application

An Environmental Impact Statement is required for every "major federal action" significantly affecting the quality of the human environment. "Major federal actions" include projects, programs and plans entirely or partly financed, assisted, regulated, or approved by Federal agencies. The American Centrifuge

Operating license amendment represents implementation of a DOE policy to support development of high-assay low-enriched uranium fuel for use in research and development for the civilian nuclear energy sector. The project further is controlled by NRC licensing procedures. The degree of federal involvement plus the "reasonably foreseeable" prospect of a decade of commercial production following the initial three-year demonstration, is a "major federal activity."

The NRC's Programmatic Environmental Impact Statement authorizes Programmatic EIS's to be compiled for "broad" or "programmatic Federal actions, such as the adoption of new agency programs." If development of new technologies could significantly affect the quality of the human environment, a Programmatic EIS should be compiled before the program has reached a stage of investment or commitment to implementation likely to determine subsequent development or restrict later alternatives.

High-assay low-enriched uranium likely will significantly affect environmental quality, contributing additional industrial chemicals and isotope emissions to the local environment at the Portsmouth Gaseous Diffusion Facility site, consuming considerably more uranium ore per unit of fuel produced (with direct effects on U.S. uranium mining and extraction), and expanding the availability of weapons-ready high-enriched uranium for global trafficking once

the SMR industry gets off the ground.

The NEPA consideration of the high-assay low-enriched uranium project was invisible to the public and the NRC has "segmented" the project into three stages – development, expanded manufacturing, and ongoing commercial manufacturing – without any rationale basis to break the project into such components. Addressing cumulative impacts in a systematic way is crucial also for assessing the economic viability of the high-assay low-enriched uranium project. The high-assay low-enriched uranium experiment signals the start of a much larger industrial production campaign that may extend over many decades. It is much more than a 16-centrifuge cascade, since Centrus admits that it "foreseeably" will follow up the initial demonstration by a decade-length expansion to meet expected commercial demand. This is the point in the initiation of a high-assay low-enriched uranium program directed by governmental policy where investigation of direct and indirect probable effects is warranted. There must be analysis of alternative means of meeting the professed need for electricity, and scrutiny of high-assay low-enriched manufacturing impacts on the physical environment, as well as upon global energy policies and nuclear nonproliferation efforts among nations.

STANDING

The Ohio Nuclear-Free Network was formed in 2020 when a dozen experienced nuclear weapons and nuclear power activists came together to work against new U.S. weapons and power generation programs. They chose to use public education, scientific advocacy and litigation strategies in Ohio's only statewide activist organization that challenges the need for nuclear power and weapons. The Network has about 25 members across Ohio, and is headquartered in Toledo, Ohio.

Beyond Nuclear is a nonprofit, nonpartisan membership organization located in Takoma Park, Maryland that aims to educate and activate the public about the connections between nuclear power and nuclear weapons, and the need to abolish both to protect public health and safety, prevent environmental harms, and safeguard our future. Beyond Nuclear has a nationwide membership of approximately 12,000 people.

A petitioning organization establishes legal standing by showing (1) at least one of its members would have standing to sue in his or her own right; (2) the interests the petitioner seeks to protect are germane to its purpose; and (3) neither the claim asserted nor the relief requested requires that an individual member of the Petitioner organization participate in the lawsuit. *Sierra Club v. EPA*, 292 F.3d 895, 898 (D.C. Cir. 2002). In this case, all three factors are satisfied as to

Petitioners Ohio Nuclear-Free Network and Beyond Nuclear.

To confer standing on the organizations, the members must show an injury-in-fact, causation, and redressability. *Id*. An injury-in-fact is "'a concrete and particularized harm' that is 'actual or imminent.'" *Id*. Proximity to the project and a reasonable concern that impacts an organization member's life or activities is sufficient to satisfy injury-in-fact. *NRDC v. EPA*, 755 F.3d 1010 (D.C. Cir. 2014).

Network member Tressie Hall lives within one mile of the American Centrifuge Plant. Ohio Nuclear-Free Network Declaration (Apx.); Hall Declaration (Apx.). Beyond Nuclear member Vina Colley lives within twelve miles of the Plant. Beyond Nuclear Declaration (Apx. __); Colley Declaration (Apx. __). Ms. Hall asserts that she is aware of radiation releases from the Portsmouth Gaseous Diffusion Facility site, where American Centrifuge Operating is located, for many years. She further states concern that she could be killed or sickened by radiation from the proposed high-assay low-enriched uranium project as an industrial uranium enrichment process that would emit radioactive isotopes.

Ms. Colley declared that she is a former nuclear worker at the Portsmouth Gaseous Diffusion Plant site. (Apx. __). Her declaration documents multiple paths of radiation exposure to workers and the public over the years. She is familiar with

the effects of occupational radiation exposure and suffers from chronic beryllium disease neuropathy along with chronic bronchitis from radiation exposure at work. Ms. Colley states in her declaration that she is greatly concerned that she would be killed or sickened by radiation from the proposed high assay low enriched uranium project because of the increased radioactivity that would result from uranium enriched to a higher level.

The Petitioners' organizational standing in this case is legally supported by the Supreme Court decision in *Friends of the Earth v. Laidlaw*, 528 U.S. 167, 120 S.Ct. 693 (2000). In *Laidlaw*, the plaintiff organization had members who were concerned about pollution in a river into which Laidlaw had been discharging pollutants. The Court emphasized that the concerns expressed by the plaintiff members were injuries to persons who use and enjoy an area for whom the aesthetic and recreational values will be adversely affected.

The *Laidlaw* court also emphasized that the plaintiffs' reasonable concern that pollution in the Tyger River would adversely impact their personal use and enjoyment of the river and its environs were not general conclusory allegations. Similarly here, the reasonable concerns of Ms. Hall and Ms. Colley about impacts from the nuclear facility confer standing on the Petitioners. Hall and Colley have established the three elements comprising the "irreducible constitutional minimum

of standing" in *Lujan v. Defenders of Wildlife*, 112 S.Ct. 2130, 504 U.S. 555, 561, (1992). First, they depicted sufferance of an "injury in fact" which is concrete and particularized, "actual or imminent, not 'conjectural' or 'hypothetical.'" *Warth v. Seldin,* 422 U.S. 490, 508 (1975); *Sierra Club v. Morton*, 405 U.S. 727, 740-741, n. 16 (1972); *Los Angeles v. Lyons*, 461 U.S. 95, 102 (1983). Second, they demonstrated a causal connection between the injury and the conduct complained of, injury "fairly . . . trace[able] to challenged action of the defendant, and not . . . th[e] result [of] the independent action of some third party not before the court." *Simon v. Eastern Kentucky Welfare Rights Org*., 426 U.S. 26, 41-42 (1976). Third, they explained that it is "likely," as opposed to merely "speculative," that the injury will be "redressed by a favorable decision." *Id.* at 38, 43.

The Hall and Colley declarations also fulfill the elements of the "proximity-plus" test for standing by showing that the enrichment activities at issue involve geographical closeness to a "significant source of radioactivity producing an obvious potential for offsite consequences." *Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 75 n. 22 (1994). See, also, *Shaw Areva MOX Services*, 66 NRC 169, LBP-07-14 (2007) (petitioners living 20 to 32 miles from mixed oxide fuel fabrication facility have standing because NRC Staff included residents as far away as 50 miles from the

facility in its calculation of potential population doses). A showing of proximity to a source of dangerously radioactive materials excuses the burden of articulating a plausible means through which those materials could cause harm; the inherent dangers of the radioactive materials comprise the obvious potential for offsite consequences. *U.S. Army Installation Command* (Schofield Barracks, Oahu, Hawaii, and Pohakuloa Training Area, Island of Hawaii, Hawaii), CLI-10-20, 71 NRC 216, 218 (2010), citing *USEC, Inc.* (American Centrifuge Plant), CLI-05-11, 61 NRC 309, 311 (2005). "[T]he emission of non-natural radiation into appellees' environment would also seem a direct and present injury, given our generalized concern about exposure to radiation and the apprehension flowing from the uncertainty about the health and genetic consequences of even small emissions like those concededly emitted by nuclear power plants." *Duke Power Co. v. Carolina Environmental Study Group,* 438 U.S. 59, 74 (1978). "A threatened unwanted exposure to radiation, even a minor one, is sufficient to establish an injury." *Dominion Nuclear Connecticut, Inc*. (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 216 (2003).

Petitioners Ohio Nuclear-Free Network and Beyond Nuclear have demonstrated the requisite organizational standing to proceed with this Petition.

ARGUMENT

I. Petitioners are Proper Parties to Bring This Action Pursuant to NEPA

A. Standard of Review

The Hobbs Act, 28 U.S.C. § 2344, requires petitioners seeking judicial review of the licensing actions and ancillary actions of certain administrative agencies, such as the NRC, to initiate the petition for review in a court of appeals.

Petitioners assert that the D.C. Circuit Court of Appeals has jurisdiction. The Court has the power to determine its own jurisdiction, based on the facts and the law. *Olivares v. Trans. Sec. Admin*., 819 F.3d 454 (D.C. Cir. 2016).

B. Petitioners Are "Parties" Under the Hobbs Act Who Participated in the Proceedings Below By Commenting

The Respondents NRC and United States brought a Motion to Dismiss the Petition (Record Doc. #1914862, 9/20/2021; Apx. __), claiming that the Petitioners are not "parties" as contemplated by the Hobbs Act, 28 U.S.C. § 2344, because the Petitioners did not intervene in or petition for a hearing pursuant to 10 C.F.R. § 2.309. Petitioners responded with their Memorandum in Opposition. (Rec. Doc. #1917780, 10/21/2021; Apx. __). The Court ordered the parties to include their respective arguments on the Motion within their briefs. (Rec. Doc. #1931569, 1/20/22; Apx.__).

The NRC asserted in its Motion that Petitioners can raise NEPA issues only

via the intervention procedure specified in 10 C.F.R. § 2.309, which is a regulation promulgated under the Atomic Energy Act. Petitioners, however, assert that it is not up to the NRC to decide who is a "party" to a Hobbs Act petition for review. Rather, it is the province of the Court to determine its own jurisdiction. Although under the Hobbs Act, only a "party aggrieved" by a final order may petition for review, the determination of whether an entity is an aggrieved party is not dependent upon the agency's labeling of an entity as a "party." *Clark & Reid Co. v. United States*, 804 F.2d 3, 6 (1st Cir. 1986) (this Court does "not equate the regulatory definition of a 'party' in an [agency] proceeding with the participatory party status required for judicial review under the Hobbs Act."). If an agency's labeling of participants were controlling, as the NRC ventures here, any agency could cut off a person's right to judicial review by simply not denominating such a person a party. Obviously, this cannot be the case. Rather, under the Hobbs Act, the courts, not the agencies, construe the term "party" to encompass "those who directly and actually participated in the administrative proceedings." *Id.* At 5; *ACLU v. FCC*, 774 F.2d 24, 26 (1st Cir. 1985); *Reyblatt v. NRC*, 105 F.3d 715, 720 (D.C. Cir. 1997). Participation can include submission of comments if that avenue is available for participation. *Id.; Water Transp. Ass'n. v. ICC*, 819 F.2d 1189, 1192-1193 (D.C. Cir. 1987) (An entity becomes a "party aggrieved" under

the Hobbs Act by presenting its views to the agency, typically through a comment or other written submission on a proposed rule, citing *Simmons v. ICC*, 716 F.2d 40, 43 n. 26 (1983)).

Submitting a comment in a rulemaking proceeding confers "party" status under the Hobbs Act. *Reyblatt,* 105 F.3d at 720; see also, *Am. Trucking Ass'ns, Inc v. FMCSA,* 724 F.3d 243, 246 (D.C. Cir. 2013); *NASUCA v. FCC*, 457 F.3d 1238, 1250 (11th Cir. 2006). The same is true for "commenting on a petition in agency proceedings that resulted in a declaratory ruling." *ACA Int'l v. FCC,* 885 F.3d 687, 711-12 (D.C. Cir. 2018).

Thus, Petitioners' commenting on the EA/FONSI constituted participation in the NEPA process for two reasons. First, the Hobbs Act makes no distinction between adjudicative and rulemaking proceedings in determining party status. *Gage v. AEC*, 479 F.2d 1214 (D.C. Cir. 1973). In *Gage*, the petitioners challenged a rulemaking decision of the Atomic Energy Commission wherein they had neither filed comments nor taken any other action while the matter was before the agency. The court ruled that the Hobbs Act applies to proceedings where persons can, or must, participate only by commenting. Second, the Hobbs Act requirement that a party participate in agency proceedings ensures that the agency is aware of the objections to its eventual decision so that it can develop and compile a complete

administrative record for appellate review. See, *e.g., ACA Int'l*, 885 F.3d at 711-12 (emphasizing the importance of having presented a view to the agency to qualify as an aggrieved party); *Gage*, 479 F.2d at 1219-21 (describing the difficulty of appellate review absent such a developed record). In this case, just by sheer coincidence since the NRC did not publish a draft EA or give notice that it was being prepared, the Petitioners did submit extensive comments, explaining their objections in detail, including legal authority and technical justification.

In *Massachusetts v. United States*, 522 F.3d 115 (1st Cir. 2008), the state was concerned about the management of spent fuel rods at two nuclear reactors and wanted to participate directly in the relicensing proceedings as a party in a formal adjudicatory proceeding. The state had also filed a separate rulemaking petition. The NRC denied the state's request to intervene and seek a formal hearing. The NRC argued that the state should not be a formal party in the licensing proceedings, but instead should participate as an interested governmental entity. The First Circuit decided that the state could participate as an interested governmental entity. Respecting NEPA procedures in nuclear relicensing proceedings, the court said:

> In such a situation, the regulations provide channels through which the agency's staff may receive new and significant information, namely from a license renewal applicant's environmental report or from *public*

> *comments on the draft SEIS [Supplemental Environmental Impact Statement]* . . . .

Id. at 127. (Emphasis added).

If commenting on a draft supplemental EIS is a recognized way to participate in the NEPA process in a nuclear relicensing case, it follows that commenting on an EA would also comprise participation in the NEPA phase of licensing.

The *Massachusetts* court further explicitly discussed who is a party:

> "Party" can both be defined in one context as a term of art, e.g., as one who has demonstrated standing and whose contention has been admitted for hearing in a licensing adjudication, see 10 C.F.R. § 2.309(a), and deployed in its more general sense of one who participates in a proceeding or transaction, ... The NRC has not defined the term "party" uniformly throughout its regulations.

Id. at 129.

The First Circuit then addressed the core issue raised in this Court by Respondent's Motion to Dismiss:

> This court applies a functional test to determine whether one is a "party aggrieved" for Hobbs Act purposes. That test asks whether the would-be petitioner "directly and actually participated in the administrative proceedings." . . . Because "we do not equate the regulatory definition of a 'party' in an [agency] proceeding with the participatory party status required for judicial review," . . . it matters not here whether NRC regulations label the Commonwealth as a "party" or an "interested governmental entity."

Id. The *Massachusetts* court unequivocally stated that the agency's interpretation

of who is a party does not control the court in determining party status for purposes of 28 U.S.C. § 2344, and that participating means taking part in the administrative proceedings in any way available.

Here, the NRC did not provide a formal comment period, violating the spirit if not the letter of Council on Environmental Quality regulations. *Cf*. 40 C.F.R. §§ 1501.4(b) and 1506.6. Those regulations clearly promote public involvement. 40 C.F.R. § 1501.4(b) states that in preparing an EA, the agency "shall involve environmental agencies, applicants, *and the public*, to the extent practicable." (emphasis added). Likewise, 40 C.F.R. § 1506.6 provides that:

> Agencies shall:
> (a) Make diligent efforts to *involve the public* in preparing and implementing their NEPA procedures.
> (b) Provide public notice of NEPA-related hearings, public meetings, and *the availability of environmental documents so as to inform those persons and agencies who may be interested or affected*.

(emphasis added).

Despite the NRC's decision here not to include the public at any stage of the Environmental Assessment preparation, the Petitioners did submit comments well in advance of the final EA/FONSI issuance. The Petitioners did, in sum, participate in the agency proceedings. That is all § 2344 requires.

It is important to emphasize that Petitioners' claim is governed by NEPA,

not the Atomic Energy Act. As the Respondents made clear in their Motion to Dismiss, the requirement for intervention in agency proceedings is established by the AEA, which cannot limit the NRC's obligations under NEPA to the public. Petitioners' comments on the NRC's proposal to issue an EA made them parties to the obligatory NEPA process.

In *Limerick Ecology Action, Inc. v. Nuclear Regulatory Commission*, 869 F.2d 719 (3d Cir. 1989), the NRC contended that by making decisions under the Atomic Energy Act, it precluded the need for consideration of environmental implications under NEPA. But the Third Circuit reversed:

> The language of NEPA indicates that Congress did not intend that it be precluded by the AEA. Section 102 of NEPA requires agencies to comply "to the fullest extent possible." 42 U.S.C. § 4332. Although NEPA imposes responsibilities that are purely procedural, [citation omitted], there is no language in NEPA itself that would permit its procedural requirements to be limited by the AEA. Moreover, there is no language in AEA that would indicate AEA precludes NEPA.
>
> The legislative history of the phrase "to the fullest extent possible" indicates that Congress intended that NEPA not be limited by other statutes by implication.
>
> ***** ***** *****
>
> On the basis, therefore, of the language of NEPA and AEA, the legislative history of NEPA, and the existing case law, we find no intent by Congress that the AEA preclude application of NEPA.

Id. at 729-730.

The thrust of the NRC's regulations is to limit parties to intervening via its procedures for intervention and submitting contentions. See generally 10 C.F.R. § 2.309. The intervention procedure is an adversary proceeding in which the party who requests leave to intervene must overcome procedural and evidentiary hurdles erected by the NRC regulations and agency interpretation. Petitioners are not aware of any other federal agency that restricts the public's participation in the NEPA process in this way. The D.C. Circuit has previously noted that the NRC improperly adds barriers to public participation in the NEPA track. See *Oglala Sioux Tribe v. U.S. Nuclear Regulatory Comm'n,* 896 F.3d 520, 532 (D.C. Cir. 2018), commenting negatively on *Strata Energy, Inc*., 83 NRC 566, 595 n.188 (2016) ("It is well settled that parties challenging an agency's NEPA process are not entitled to relief unless they demonstrate harm or prejudice."); and *Crow Butte Resources, Inc.*, 83 NRC 340, 413-14 (2016) (keeping a license in effect although the NRC staff had not complied with NEPA, and repeating the "irreparable injury" requirement).

NEPA contemplates that the public will participate in the NEPA process by commenting on the documents required by NEPA. That is the only means by which an administrative record can be made in a NEPA case. NEPA is not subsumed to the Atomic Energy Act, but is a separate, ancillary permitting track in

the process of NRC licensing. By submitting extensive comments in this case, the Petitioners properly participated, and consequently are aggrieved parties under the Hobbs Act.

II. The NRC Violated NEPA By Issuance of the EA/FONSI instead of compiling an Environmental Impact Statement

A. Standard of Review

The Court of Appeals for the District of Columbia Circuit has adopted the arbitrary and capricious standard in the review of an agency decision to issue an EA and FONSI, rather than an EIS. *Nevada v. Department of Energy*, 457 F.3d 78, 87 (D.C. Cir. 2006); *Sierra Club v. Peterson*, 717 F.2d 1409 (D.C. Cir. 1983). This Court also uses *Peterson's* four-part test to review an agency's finding of no significant impact (FONSI) to the environment. The court determines:

(1) whether the agency took a 'hard look' at the problem;

(2) whether the agency identified the relevant areas of environmental concern;

(3) as to the problems studied and identified, whether the agency made a convincing case that the impact was insignificant; and

(4) if there was an environmental impact of true significance, whether the

agency convincingly established that changes in the project sufficiently reduced it to a minimum.

The agency's threshold determination must meet all of these factors to pass review in the D.C. Circuit. *Id.*

It is possible for the Court to find that the agency has taken the requisite NEPA "hard look" at the environmental impacts, yet determine that the record does not support a finding of no significant impact. *Sierra Club v. Peterson* ("hard look" taken but there was a small possibility that some of the oil and gas leases at issue might permit a level of exploratory activity that could produce significant adverse impacts).

B. The EA/FONSI Neither Recognized Nor Addressed the Issues of Nuclear Proliferation and Terrorism Nor Anticipated Impacts on the Domestic U.S. Uranium Supply Chain from Switching to High-Assay Low-Enriched Uranium Fuel

1. Nuclear Proliferation and Terrorism

Petitioners made the below comments to the NRC respecting terrorism and weapons proliferation:

> According to a report issued in the past week by the Union of Concerned Scientists, "[w]hile HALEU is considered impractical for direct use in a nuclear weapon, it is more attractive for nuclear weapons development than the LEU [low-enriched uranium] used in LWRs[light water reactors]." (Emphasis added). U.S. reactor development has implications for proliferation, "both because US vendors seek to export new

> reactors to other countries and because other countries are likely to emulate the US program. The United States has the responsibility to set a good international example by ensuring its own nuclear enterprise meets the highest nonproliferation standards."
>
> Under the AEA, the Commission has a legal and non-discretionary duty to consider whether when granting a license, such an action could be inimical to the common defense and security of the United States or the health and safety of the public. See, *e.g.*, 42 U.S.C. § 2077(c)(2) or § 2099. Moreover, the Commission's NEPA analysis must consider the full range of risks to the common defense and security potentially arising from its licensing decision, and must consider all reasonable alternatives that could eliminate or mitigate those risks. See, *San Luis Obispo Mothers for Peace v. NRC,* 449 F.3d 1016 (9th Cir. 2006).
>
> The Commission, then, has a legal and non-discretionary duty to consider whether a decision to grant a first-of-a kind commercial license for HALEU enrichment could abet the proliferation of this fuel to domestic terrorists or foreign governments. Saudi Arabia, for example, is acquiring SMRs for the unabashed purpose of developing nuclear weapons. In some contexts, SMR commerce could be indirectly if not directly inimical to the common defense and security of the United States or the health and safety of its public. The Commission's NEPA analysis of HALEU must consider the full range of defense and security risks implicated by this licensing decision, and must consider all reasonable alternatives that could eliminate or mitigate those risks. These alternatives should be compiled in a Programmatic Environmental Impact Statement, evoking considerable public participation before the decision is made, instead of the planned Environmental Assessment/Finding of No Significant Impact (EA/FONSI), which completely cuts the public out.

(Index 55, pp. 2-3; Apx. __).

Nuclear proliferation and security issues have been part of NEPA decision making since the inception of NEPA. See*, Scientists' Institute for Public Information, Inc. v. AEC*, 481 F.2d 1079 (D.C. Cir. 1973) (court required the

Atomic Energy Commission to prepare a programmatic EIS on the Commission's Liquid Metal Fast Breeder Reactor Program; nonproliferation and terrorism were addressed in the resulting EIS).

At the preliminary injunction hearing in the 1974 case, *West Michigan Environmental Action Council v. AEC*, Dkt . No . G-58-73 (W.D. Mich. 1974) the Atomic Energy Commission settled the litigation by preparing a generic Programmatic EIS on plutonium recycle, known as the "Generic Environmental Statement on Mixed Oxide Fuel" (GESMO), No. RM-50-1. The GESMO expressly addressed issues related to protecting plutonium from theft, diversion, or sabotage.

The Ninth Circuit, in *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016 (9th Cir. 2006) (*SLOMFP*), held that an NRC licensing decision must consider terrorism as a likely occurrence and assess the implications and impacts of that. Certainly, highly enriched uranium, which could be used to make a nuclear bomb, is a prime target for terrorists. The *SLOMPF* court determined that a terrorist attack was not so remote and speculative that it should not be considered in an environmental review. This was especially true when the NRC itself undertook a terrorism review after the September 11 attacks. *Id.* at 1031. The court also held that "It is therefore possible to conduct a low probability-high

consequence analysis without quantifying the precise probability of risk." *Id*. at 1031. The court continued, "If the risk of a terrorist attack is not insignificant, then NEPA obligates the NRC to take a "hard look" at the environmental consequences of that risk." *Id.* at 1032. The court dismissed NRC arguments that consideration of terrorist attacks would be a worst-case scenario or that revealing any information in addressing terrorist attacks would implicate security concerns. The court concluded:

> The application of NEPA's requirements, under the rule of reason relied on by the NRC, is to be considered in light of the two purposes of the statute: first, ensuring that the agency will have and will consider detailed information concerning significant environmental impacts; and, second, ensuring that the public can both contribute to that body of information, and can access the information that is made public.
>
> ***** ***** *****
>
> The NRC simply does not explain its unwillingness to hear and consider the information that Petitioners seek to contribute to the process, which would fulfill both the information-gathering and the public participation functions of NEPA.

Id. at 1034.

In the present matter, the Environmental Assessment/Finding of No Significant Impact does not analyze or consider the impacts of terrorism or nuclear weapons proliferation at all. The EA/FONSI does not even mention the word "terrorism," and mentions "proliferation" only once, in its unsupported conclusion

that "the [25%] enrichment level does not raise any security or proliferation concerns." The EA relies almost exclusively on the results of environmental reviews in previous licensing decisions for previous activities at the Piketon site. But those reviews did not analyze or consider the impacts of terrorism as related to the prospects for weapons proliferation, because High Enriched Uranium was not being produced at the site. The fact that high-assay low-enriched uranium that is also classified as high-enriched uranium will be produced at the centrifuge plant ignores the reasoning of the *SLOMFP* case, and underscores the conclusion that the NRC's issuance of a fuel license for actions to implement a DOE policy is a "major federal activity" with significant impacts.

The NRC's EA/FONSI also omits entirely to assess and analyze the likely impacts to domestic uranium mining as a consequence of the turn to the higher enrichment levels of this new fuel.

2. Impacts on Domestic Uranium Supply Chain

In the comment letter, Petitioners stated to the NRC:

> A PEIS [Programmatic Environmental Impact Statement] would also explicate the prospective effects on uranium extraction, which bears considerable portents for Environmental Justice, given the extent to which indigenous lands are affected by mining. Per unit of HALEU produced, there will be much larger volumes of uranium mining and mill tailings waste generated, and much more waste depleted uranium created. There are environmental justice impacts regardless of whether uranium is mined

> domestically or imported, but since proposed federal policy includes incentives to source uranium domestically (and to limit sourcing from Russia), there are significant EJ impacts that the NRC can't ignore.

(Index 55, p. 1; Apx. __).

If the demand for high-assay low-enriched uranium fuel in national and international markets reaches the heights Centrus seems to anticipate, there will be significant effects on the moribund domestic uranium mining industry. The fuel requires four times the concentration of U-235, or more, than conventional reactor fuel. This means that considerably more low-grade uranium ore will be needed from which to concentrate U-235 in the new fuel.

The principal flaw in the EA/FONSI is that the NRC has treated its licensing action as merely allowing a limited production run of a different reactor fuel, without accounting for the implications that follow. High-assay low-enriched uranium is a necessary enhanced fuel type needed for the initiation of a new generation of technologically diverse Small Modular Reactors. The nuclear industry expects to sell many small modular reactors globally. The fuel is controversial because of the global nature of marketing expectations. Hence the "agency's Environmental Assessment 'must give a realistic evaluation of the total impacts and cannot isolate a proposed project, viewing it in a vacuum.' *Grand Canyon Trust v. FAA*, 290 F.3d 339, 342 (D.C. Cir. 2002). The 'incremental

impact of the action [at issue] must be considered when added to other past, present, and reasonably foreseeable future actions.' *Id.* 'It makes sense to consider the 'incremental impact' of a project for possible cumulative effects by incorporating the effects of other projects into the background data base of the project at issue.'" *Coalition on Sensible Transp., Inc. v. Dole,* 826 F.2d 60, 70-71 (D.C. Cir. 1987) .

"When a federal agency decides whether to prepare an impact statement, the issue is not whether it has adequately considered the significance of the federal action; the issue is whether an impact statement must be prepared because significant environmental impacts could occur. . . . In order to decide whether an impact statement is required, a court must decide whether the environmental assessment is adequate. . . . In order to determine whether an action is significant, an agency or court must have a point of comparison or 'baseline.' . . . If an agency prepares an environmental assessment without identifying an environmental baseline, a court may remand on the basis that it did not take the requisite hard look at the consequences of its proposed action." Daniel Mandelkar, *et al.*, NEPA Law and Litigation (2021 Edition).

The significant baseline fact here is that the American Centrifuge license currently limits the enrichment of uranium to less than 10 percent. The license

amendment allows American Centrifuge Operating to more than double that limit. Increasing the enrichment to 20%-25% presents new, hitherto unaddressed considerations for next-generation uranium fuel. High-assay low-enriched uranium will consume multiples of the volume of uranium ore required to produce conventional reactor fuel. And at 20% enrichment levels, it is High Enriched Uranium; high-enriched uranium is readily adapted for use in thermonuclear weapons. These aspects of high-assay low-enriched uranium production render inapplicable the prior so-called "bounding" NEPA documents cited by the NRC.

The sharp turn into this new fuel, particularly those batches of it that surpass the supposedly optimum 19.75% U-235 level, represents a significant change in commercial nuclear fuel, and it must be analyzed within an EIS or Programmatic EIS because of these significant impacts.

III. The NRC Should Be Required to Prepare an EIS or Programmatic EIS for the American Centrifuge Operating License Amendment Application

A. Standard of Review

The D.C. Circuit applies an arbitrary and capricious standard of review to a NEPA challenge. *Nevada v. Department of Energy*, 457 F.3d 78, 87 (D.C. Cir. 2006). The Court's role is to "ensure that the agency has adequately considered and disclosed the environmental impact of its actions and that its decision is not

arbitrary or capricious." *Baltimore Gas & Electric Co. v. NRDC*, 462 U.S. 87, 97–98, 103 S.Ct. 2246 (1983). The question is whether the agency "examine[d] the relevant data and articulate[d] a satisfactory explanation for its action[,] including a rational connection between the facts found and the choice made." *Motor Vehicle Manufacturers Ass'n, Inc. v. State Farm Mutual Automobile Insurance Co.*, 463 U.S. 29, 43, 103 S.Ct. 2856 (1983) (internal quotation marks omitted). *Birckhead v. FERC*, 925 F.3d 510 (D.C. Cir. 2019).

Federal agencies are required to prepare an Environmental Impact Statement (EIS) for every "major federal action" significantly affecting the quality of the human environment. NEPA § 102(2)(C); 42 U.S.C § 4332(2)(C). According to 40 CFR §1508.1(q)(2) and (3) of NEPA regulations, major federal actions may include: "projects and programs entirely or partly financed, assisted, . . . regulated, or approved by Federal agencies; . . . [a]doption of formal plans . . . ; [a]doption of programs, such as a group of concerted actions to implement a specific policy or plan;" and "[a]pproval of specific projects, such as construction or management activities located in a defined geographic area."

The American Centrifuge Operating license amendment represents implementation of a Department of Energy policy via contract, whereby American Centrifuge Operating would provide DOE with up to 600 kilograms (kg) of high-

assay low-enriched uranium for use in research and development for the civilian nuclear energy sector. (Index 81, p. 4; Apx. __). The DOE is supporting the commercial feasibility of high-assay low-enriched uranium and in doing so is implementing a policy by having its contractor obtain approval of a specific project.

"The touchstone of major [F]ederal activity constitutes a [F]ederal agency's authority to influence nonfederal activity. 'The [F]ederal agency must possess actual power to control the nonfederal activity.'" *United States v. S. Fla. Water Mgmt. Dist.*, 28 F.3d 1563, 1572 (11th Cir. 1994) (*quoting Sierra Club v. Hodel*, 848 F.2d 1068, 1089 (10th Cir. 1988).

Here, the High Assay Low Enriched Uranium project is funded by the DOE contract with American Centrifuge Operating and the enrichment process requires a license from the NRC. So not one, but two federal agencies possess power to control the nonfederal activity of centrifuge operations. Moreover, DOE exerts *de facto* control over high-assay low-enriched uranium manufacturing because the management and disposal of radiological waste generated during its cascade operation is the sole responsibility of the DOE. (Index 81, p. 12; Apx. __). Certainly the project's significant federal intrusions, coupled with the "reasonably foreseeable" prospect of a decade of commercial production following the initial

three-year demonstration, is a "major federal activity."

This project also heralds a "broad federal action." A Programmatic EIS may be required for "broad Federal actions." According to 40 C.F.R. § 1502.4(b), "Environmental impact statements may be prepared for programmatic Federal actions, such as the adoption of new agency programs." When preparing statements on programmatic actions, agencies evaluate the proposals:

> By stage of technological development including Federal or federally assisted research, development or demonstration programs for new technologies that, if applied, could significantly affect the quality of the human environment. Statements on such programs should be available before the program has reached a stage of investment or commitment to implementation likely to determine subsequent development or restrict later alternatives.

40 C.F.R. § 1502.4(b)(1)(iii).

The Centrus High Assay Low Enriched Uranium contract is for a demonstration project. Commercial reactor fuel typically contains only 4%-5% U-235, so creating low-enriched uranium requires only about 1/4 as much U-235 as HALEU. (Index 81, p. 4, 5; Apx. __). The small modular reactors in which high-assay low-enriched uranium fuel will be fissioned have not yet been built, even as prototypes. In the Environmental Assessment, the NRC found that Centrus's anticipated request for a 10-year extension of its high-assay low-enriched uranium license beyond the three years granted in 2021 "is reasonably

foreseeable" and that "the environmental impacts from up to an additional 10 years of operation are considered in this EA." In other words, two separate stages of operations and development (the 600-kg. demonstration and the ensuing decade of presumably higher-volume production) were merged by the NRC for NEPA purposes. Given Centrus's optimism that the new fuel will be successfully commercialized by the end of those 13 years, the treatment of the project in the EA suggests that the project is a demonstration of a new technology "that, if applied, could significantly affect the quality of the human environment." 40 C.F.R. § 1502.4(b)(1)(iii). As the Programmatic EIS regulation advises, "Statements on such programs should be available before the program has reached a stage of investment or commitment to implementation likely to determine subsequent development or restrict later alternatives." In other words, an EIS or Programmatic EIS is needed now, before governmental investment or commitment is determinative of future decisions and/or causes alternatives to be discarded.

In *Kleppe v. Sierra Club*, the Supreme Court recognized that NEPA may mandate a comprehensive EIS "in certain situations where several proposed actions are pending at the same time." *Kleppe*, 427 U.S. 390, 409 (1976). The Court noted that "when several proposals . . . that will have cumulative or synergistic environmental impact upon a region are pending concurrently before

an agency, their environmental impacts must be considered together. Only through comprehensive consideration of pending proposals can the agency evaluate different courses of action." *Id.* at 410.

Appellate courts have defined a two-pronged inquiry to establish whether a Programmatic EIS is appropriate: "(a) Could the Programmatic EIS be sufficiently forward looking to contribute to the decision makers' basic planning of the overall program? and, (b) Does the decision maker purport to 'segment' the overall program, thereby unreasonably constricting the scope of primordial environmental evaluation?" *Churchill County v. Norton*, 276 F.3d 1060, 1076 (9th Cir. 2001) (citing *Nat'l Wildlife Fed'n v. Appalachian Reg'l Comm'n*, 677 F.2d 883, 889 (D.C. Cir. 1981)). See also *Foundation on Economic Trends v. Heckler*, 756 F.2d 143, 159 (D.C. Cir. 1985).

In the present matter, a Programmatic EIS would contribute to the NRC's (and the public's) understanding of the true scope of the reasonably foreseeable uranium supply chain effects from expansion of uranium fuel enrichment to meet the requirements to concentrate high-assay low-enriched uranium. Similarly, assessment of potential for nuclear proliferation as high-assay low-enriched uranium manufacturing becomes normalized at a high volume of production can be best understood by a programmatic approach. The NRC cannot dodge the

existence of a comprehensive program with cumulative environmental effects by "disingenuously describing it as only an amalgamation of unrelated smaller projects." *Churchill County*, 276 F.3d at 1076 (citing *Nat'l Wildlife Fed'n*, 677 F.2d at 890.

Addressing cumulative impacts in a systematic way is crucial also for assessing the economic viability of a project. In *Blue Mountains Biodiversity Project v. Blackwood,* 161 F.3d 1208, 1215 (9th Cir.1998), the Ninth Circuit held that a single environmental impact statement should have been prepared by the Forest Service for five separate contracts for the sale of salvage timber which were all part of one large project (a timber salvage and re-vegetation project in an eastern Oregon national forest following an extensive fire). *Id.* at 1209. The court found the sales were cumulative actions because they were part of a single project, were announced simultaneously, and were reasonably foreseeable. *Id.* at 1514-15. See also, *LaFlamme v. FERC*, 852 F.2d 389, 401-03 (9th Cir. 1988) (finding that agency consideration of specific facts in isolation is insufficient to replace comprehensive analysis of the impact of the program as a whole).

Moreover, the Environmental Assessment for Centrus's high-assay low-enriched uranium project describes the potential for airborne radiation emissions, both from the project as well as from legacy contamination at the Portsmouth

Gaseous Diffusion Facility site. The approach in the EA reflects segmentation or piecemealing of the project because it lacks an adequate analysis of the possible synergism between longtime and new isotopic emissions. In its EA, the NRC states:

> Soil, surface water, sediment, groundwater, and air in and around the DOE reservation contain radionuclides and chemicals that are both naturally occurring and anthropogenic (i.e., human made), the latter from historical and current operations at the site (NRC 2006b). . . . Gaseous effluents released to the air are the primary cause of public dose and are well within regulatory limits.

(Index 81, p. 11; Apx. __). But the EA fails to identify and analyze cumulative effects on the plan from other nuclear material production, enrichment and remediation activities taking place at the site, including the processing of depleted uranium, the ongoing demolition of contaminated structures, and disposal of radioactively contaminated material in an onsite landfill, which is geologically connected to the water table beneath. (Index 81, pp. 17, 20, 27; Apx. __; ACO Env. Report, Index 33, pp. 3-4, 3-24; Apx. __). A comprehensive Environmental Impact Statement or Programmatic Environmental Impact Statement must take account of the potential for the new enrichment activities compounding the historic contamination from the former industrial enrichment there.

In *Natural Resources Defense Council, Inc. v. Callaway*, 524 F.2d 79, 88

(2d Cir. 1975), the Second Circuit imposed some obligations on the U.S. Navy to include other proposed projects in its EIS for a Long Island Sound dumping project, but generally declined to require the production of a full-fledged Programmatic EIS. The Second Circuit noted that "an agency may [treat] a project as an isolated 'single-shot' venture in the face of persuasive evidence that it is but one of several substantially similar operations, each of which will have the same polluting effect in the same area. To ignore the prospective harm under such circumstances could be to risk ecological disaster." *Id.* (discussing "comprehensive evaluation").

Petitioners submit that a Programmatic EIS should be undertaken because the high-assay low-enriched uranium experiment signals the start of a much larger industrial production campaign that may extend over many decades. The NRC's NEPA document treats the 16-centrifuge cascade as the sole activity for NEPA analysis even as it admits that it "foreseeably" will be followed by a decade-length production of high-assay low-enriched uranium fuel for full commercialization. There is no discussion of the terrorism and nuclear proliferation potential of these stages. There is no acknowledgment of the possibly dramatic increases in uranium ore and the need for considerable other raw materials necessary to support global marketing of an ostensibly more flexible modular nuclear power technology. And

this new industrial campaign will itself take place in a physical environment at Portsmouth Gaseous Diffusion Facility site where there is pre-existing, legacy radiological and chemical contamination that is admitted but not investigated nor quantified in the EA.

CONCLUSION

It is Petitioners' contention that the determination of the NRC here to issue an EA/FONSI was arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law. *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416 (1971); 5 U.S.C. §706(2)(A) (Administrative Procedure Act). Under the Administrative Procedure Act, the Court must "compel agency action unlawfully withheld or unreasonably delayed" in these circumstances. 5 U.S.C. § 706(1).

WHEREFORE, Petitioners pray the Court find and declare that Respondents Nuclear Regulatory Commission and United States of America have violated the National Environmental Policy Act in the particulars cited hereinabove, and that by way of relief the Court remand this matter back to the NRC with instructions to compile either an Environmental Impact Statement or a Programmatic Environmental Impact Statement, the decision to be made following scoping as required by NEPA regulations. Further, Petitioners pray the Court grant such other and further relief, at law and in equity, as may be necessary in the

premises.

Dated: April 2, 2022

Respectfully submitted,

/s/ Terry J. Lodge
Terry J. Lodge, Esq.
316 N. Michigan St., Suite 520
Toledo, OH 43604-5627
(419) 205-7084
Fax: (419) 932-6625
Email: tjlodge50@yahoo.com
lodgelaw@yahoo.com

/s/ Wallace L. Taylor
Wallace L. Taylor, Esq.
Law Offices of Wallace L. Taylor
4403 1st Ave. S.E., Suite 402
Cedar Rapids, Iowa 52402
319-366-2428
Fax: 319-366-3886
E-mail: wtaylorlaw@aol.com
Co-Counsel for Petitioners

CERTIFICATE OF SERVICE

I hereby certify that on this 2nd day of April, 2022, I filed the foregoing Petitioners' Second Corrected Proof Brief in the Court's electronic case filing system, which according to its protocols would automatically be served upon all counsel of record.

/s/ Terry J. Lodge
Terry J. Lodge
Co-Counsel for Petitioners

CERTIFICATE OF COMPLIANCE

The foregoing Petitioners' Proof Brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5); the type-style requirements of Fed. R. App. P. 32(a)(6); the length limitation set forth in F.R.App.P. 27(d)(2)(a); and the applicable rules for the U.S. Court of Appeals for the District of Columbia Circuit. The Memorandum was prepared in 14-point, double spaced Times New Roman font using Wordperfect 4X. The Brief contains 10,476 words.

/s/ Terry J. Lodge
Terry J. Lodge
Co-Counsel for Petitioners

PETITIONERS' DESIGNATION OF ITEMS FOR INCLUSION IN DEFERRED APPENDIX

American Centrifuge Operating License Application, Index 29, pp. 1, 1-2
Env. Report, Index 33, pp. 3-4 and 3-24
Comment Letter, Index 55, all
Faraz Email, Index 62, all
EA/FONSI, Index 81, all
NRC Approval letter, Index 83, all
Amended American Centrifuge Operating Materials License, redacted, Index 88, all
EA/FONSI public notice, 86 Fed. Reg. 31,539 (June 14, 2021) (not listed in Index), all
Petitioners' Petition for Review, all
Respondents' Motion to Dismiss (9/20/2021), all
Petitioners' Opposition to Motion to Dismiss (10/20/2021), all
Court Order Per Curiam on Briefing (1/20/2021), all