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' FINAL REPLY BRIEF

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GLOSSARY

Addendum - Petitioners' Addendum of Statutes, Regulations and Standing Declarations
AEA - Atomic Energy Act
APA - Administrative Procedure Act
Apx - Appendix to the Briefs
CEQ - Council on Environmental Quality
DOE - Department of Energy
EA - Environmental Assessment
EIS - Environmental Impact Statement
Idx - Certified Index (administrative record index)
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

SUMMARY OF ARGUMENT

Petitioners are parties aggrieved as required by the Hobbs Act. Respondents cannot force Petitioners' NEPA claim into the NRC's adjudicatory process. First, NEPA provides for participation in the NEPA process through public comment. The NRC's attempt to force the NEPA claims into an adjudicatory process would allow the NRC to ignore public comment. Second, the NRC's glowing description of its adjudicatory process grows dark when one understands the reality of how the process makes it virtually impossible for the public to participate.

The NRC's environmental assessment is insufficient in this case. Three issues require the preparation of an EIS: likelihood of terrorist attacks at the Piketon site; nuclear proliferation; and increased uranium mining resulting from enriching uranium. There is clear authority requiring that these issues be addressed in an EIS.

Pertinent case law shows that if the activity being licensed by the NRC creates a proximate cause to attract terrorism, then terrorism must be addressed in an EIS. Likewise, nuclear proliferation has long been an issue the NRC must address. Here, a new type of enriched uranium would be produced in this country and would be the impetus for nuclear proliferation. Finally, the purpose of this proposed project is to commencedevelopment of the next generation of nuclear

reactors, keeping uranium mining as a viable industry even as conventional nuclear reactors are being closed.

A Programmatic EIS must be prepared in this case. This license amendment is the first step in a planned multi-year program which, although a DOE program, will occur under the licensing authority of the NRC. The NRC cannot conveniently try to limit the review of the project to the initial licensing of the demonstration project.

ARGUMENT

I. PETITIONERS ARE PROPER PARTIES TO BRING THIS ACTION PURSUANT TO NEPA.

All parties agree that the procedure for this case and the Court's jurisdiction to entertain the Petition for Review is the Hobbs Act, 28 U.S.C. § 2342, 2344. The Hobbs Act grants the right to judicial review to "parties aggrieved." The Nuclear Regulatory Commission (NRC), Respondent, maintains the Petitioners are not parties aggrieved because they did not seek to intervene and request a hearing from the NRC, pursuant to NRC regulation 10 CFR § 2.309. Respondent argues that the 10 CFR § 2.309 procedure is required by § 189 of the Atomic Energy Act (AEA), 42 U.S.C. § 2239. Petitioners allege a violation of the National Environmental Policy Act (NEPA), and maintain that nothing in § 189 mandates

that NEPA requirements be addressed solely within the § 2.309 hearing proceeding.

Section 189 of the AEA states, pertinently:

> In any proceeding under this chapter, for the granting . . . of any license. . . , the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding, and shall admit any such person as a party to such proceeding.

42 U.S.C. § 2239. Nothing in that language requires NEPA issues to be restricted to the § 2.309 hearing procedure, and more important, nothing abrogates or supersedes the public participation provisions of the NEPA regulations as promulgated by the Council on Environmental Quality. See, 40 CFR §§ 1501.4(b), 1506(6).

The Respondents cite the case of *Vermont Dep't of Pub. Serv. v. U.S.*, 684 F.3d 149 (D.C. Cir. 2012) for the proposition that a petitioner cannot bypass agency procedures for presenting its claims. But *Vermont* does not support the Respondents' argument; instead, it reinforces the Petitioners' position. In *Vermont*, the petitioners claimed that the NRC, in considering the amendment of a nuclear power reactor license, did not ensure that the applicant had complied with a requirement of the Clean Water Act for a state water quality certification. The problem in that case was that the petitioners had made no effort whatsoever to

raise the water quality certification issue until after the NRC had issued the amended permit.

The D.C. Circuit Court explored Petitioners' options in *Vermont*, *id.* at 157:

> [Petitioners] could have petitioned the Commission for interlocutory review of the Board's denial of their Late Contention/Request to Amend pursuant to 10 C.F.R § 2.341(f)(2). Or they could have filed a new, separate contention limited to their section 401 objection either immediately after the Board's denial . . . or upon discovering that neither the Draft nor the Final SEIS mentioned a section 401 WQC . . . . *Or they could have submitted a comment for the Commission's review in response to the December 2006 Draft SEIS* . . . . (emphasis added).

Thus, the *Vermont* panel established that filing a petition to intervene in an adjudicatory hearing under the Atomic Energy Act is not the only way to become a party to an NRC proceeding. The petitioners could have submitted comments on the draft environmental impact statement. That is exactly what the Petitioners did here: they offered comments on the NEPA document being drafted by the agency. The Petitioners' comments gave the agency "the opportunity to correct [its] own errors, affording parties and courts the benefits of [the agency's] expertise, and compiling a record adequate for judicial review." *Id.* at 158.

Contrary to its refusal to consider the Petitioners' extensive comment letter, the NRC now argues that without an adjudicatory hearing, there is no record to review. Fed. Resp. Br. at 25. But there is a record for review, namely, Petitioners'

comment letter. That is the nature of the administrative record in any NEPA case. *See, e.g., Nat'l. Comm. For the New River v. FERC*, 373 F.3d 1323 (D.C. Cir. 2004). An agency prepares its NEPA documentation and makes it available for public input. The agency is then supposed to consider the public input and prepare the NEPA document based on its consideration of public comments. In this case, the NRC did not consider Petitioners' comments at all, apparently taking the position that it did not have to, since Petitioners had not sought to intervene and request an adjudicatory hearing.

Centrus maintains that requiring the Petitioners to request an adjudicatory hearing would allow the Petitioners to better present their case and provide a more thorough record. Fed. Resp. Br. at 25. This is a ruse. It is important for the Court to understand how the NRC's regulation that governs hearings, 10 CFR § 2.309, works in reality. The process starts with the applicant for a license submitting its application, accompanied by an environmental report and a safety analysis report. A prospective intervenor then has only 60 days to review the hundreds of pages of documents submitted by the applicant; determine what contentions should be submitted; find, consult with, and obtain extensive written opinions from expert witnesses; and prepare detailed contentions to be submitted with the request to intervene.

If the intervenor successfully crosses those hurdles, it must then meet the "strict by design" standard for admissibility of contentions, memorialized in *Shieldalloy Metallurgical Corp.* (Amendment Request for Decommissioning of the Newfield, New Jersey Facility), LBP-07-5, 65 NRC 341, 352 (2007). What this should mean is that a petitioner must show facts and issues to minimally form a basis for supporting the contention. What it means in reality is that a petitioner must posit an extensive claim, supported by detailed facts and expert opinion, which embodies all possible information known to the petitioner on the date the petition is filed. It also means that a petitioner is charged with knowing every word in the hundreds of pages of documentation submitted by the license applicant to ensure that the contention takes proper issue with the documentation. Furthermore, the petitioner is presumed to have reviewed and to have acquired intimate knowledge of every document referenced in the license applicant's documentation. Finally, the petitioner is required to have intimate knowledge of information that is does not appear in the license applicant's documentation nor is referenced in that documentation, but which nonetheless exists in the public domain.

The upshot is that it is extremely difficult, if not virtually impossible, for a petitioner to surmount the barriers to intervention. The Atomic Energy Act's

supposed "right" to a hearing is illusory, especially with respect to NEPA issues. From the outset of, and throughout much of the contention pleading process, it is typical for the NRC to have not yet prepared an EA or EIS for a project. So a petitioner's contentions must be directed at the applicant's environmental report, which is not the agency's NEPA document. Sometimes, the adjudicatory proceeding is terminated before the EIS or EA is even published. Although NRC regulations, 10 CFR §§ 2.309© and 2.326, provide for filing new contentions once the EA or EIS is published, and for reopening the adjudicatory proceeding, that "right," too, is illusory. In order to file a new contention based on the NRC NEPA document, § 2.309© requires that the petitioner show that:

> (I) The information upon which the filing is based was not previously available;
> (ii) The information upon which the filing is based is materially different from information previously available; and
> (iii) The filing has been submitted in a timely fashion based on the availability of the subsequent information.

Then, in order to reopen a closed adjudicatory proceeding, § 2.326 requires that:

> (a)(1) The motion must be timely. However, an exceptionally grave issue may be considered in the discretion of the presiding officer even if untimely presented;
> (2) The motion must address a significant safety or environmental issue; and
> (3) The motion must demonstrate that a materially different result

> would be or would have been likely had the newly proffered evidence been considered initially.
>
> (b) The motion must be accompanied by affidavits that set forth the factual and/or technical bases for the movant's claim that the criteria of paragraph (a) of this section have been satisfied. Affidavits must be given by competent individuals with knowledge of the facts alleged, or by experts in the disciplines appropriate to the issues raised. Evidence contained in affidavits must meet the admissibility standards of this subpart. Each of the criteria must be separately addressed, with a specific explanation of why it has been met. When multiple allegations are involved, the movant must identify with particularity each issue it seeks to litigate and specify the factual and/or technical bases which it believes support the claim that this issue meets the criteria in paragraph (a) of this section.

The foregoing regulations lay out nearly insurmountable challenges to an intervenor's reopening a proceeding to raise a new contention based on an EA or EIS. The Federal Respondents' inexact description of the NRC intervention/ contention process is misleading. The real issues are (1) whether participation in the NRC's NEPA process by submitting comments is open to members of the public, and (2) whether such participation makes them parties under the Hobbs Act.

Clearly, the process is open, and by their comment participation, the Petitioners are parties. The D.C. Circuit held in *Vermont Dep't of Pub. Serv., supra* that commenting on NEPA documents is a lawful means of participation in that administrative process and of exhausting administrative remedies.

But the NRC's rules of procedure work to restrict participation via the

NRC's adaptation of NEPA created under the AEA. Consequently, the NRC has violated the statutory public participation requirements of NEPA. If members of the public can submit comments but cannot seek judicial review of EA or EIS adequacy, as the Federal Respondents argue, then participation by commenting is meaningless and the aims of NEPA are thwarted.

Centrus/American Centrifuge Operating argues that the usual NEPA procedure, *i.e.*, public comment, rather than the NRC's adjudicatory process, would create a one-sided record and not allow a license applicant an opportunity to present its side of the case. But that argument (although baseless) could be made in any NEPA case in any other agency. There is no reason the NRC should be any different. The purpose of NEPA is to inform the agency and the public en route to the agency's making an informed decision. NEPA is not meant to be an adversary proceeding.

The foregoing discussion, taken together with the arguments raised in Petitioners' initial brief, demonstrates that the requirement of participation in the proceeding, which forms the basis of "party aggrieved" status for purposes of Hobbs Act jurisdiction, is satisfied by a party's publicly commenting on an agency's NEPA documentation. That is exactly what the Petitioners did here, by reason of which they are "parties aggrieved."

II. THE NRC VIOLATED NEPA BY THE ISSUANCE OF AN ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT INSTEAD OF COMPILING AN EIS.

The Petitioners maintain that the NRC violated NEPA by not preparing an EIS addressing the issues of terrorism and nuclear weapons proliferation and the anticipated impacts on the domestic uranium supply chain. The NRC quibbling response is that "Petitioners do not specify what exactly they expected the NRC to consider within the context of its NEPA evaluation, since 'proliferation' by definition occurs abroad." Fed. Resp. Br. at 20. But this dodge pointedly ignores the explicit demand for an EIS made by Petitioners in their March 30, 2021 comment letter:

> 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.

(Idx 55, Lodge Comment Letter p. 3; Apx 185).

Contrary to the NRC's quibble, sabotage, terrorism and proliferation all begin at home. They are reasonably foreseeable risks with potential environmental

impacts resulting from the decision to issue the amended license to American Centrifuge Operating, LLC.

NEPA regulation 40 CFR § 1503.3(a) addresses the need for specificity of public comments, stating that they:

> . . . shall be as specific as possible, may address either the adequacy of the statement or the merits of the alternatives discussed or both, and shall provide as much detail as necessary to meaningfully participate and fully inform the agency of the commenter's position. Comments should explain why the issues raised are important to the consideration of potential environmental impacts and alternatives to the proposed action, as well as economic and employment impacts, and other impacts affecting the quality of the human environment.

Petitioners commented about several important project aspects, such as the big difference in Uranium-235 concentrations between current nuclear reactor fuel and high assay low enriched uranium to be used in next-generation reactors, and how that difference made the new fuel problematic in ways that were not relevant with low-enriched conventional fuel. (Idx 55, Lodge Comment Letter pp. 1-2, Apx 183-184). Petitioners referenced an analysis from the Union of Concerned Scientists that explained the proliferation potential of the new fuel and pointed out that global competition in small modular reactors is on the rises, to explain why terrorism and proliferation issues should be considered to be environmental impacts. (Idx 55, Lodge Comment Letter pp. 2-3, Apx 184-185). Indeed, Centrus'

attempted argument that the Union of Concerned Scientists report concedes that the new fuel isn't usable in a nuclear weapon backfires. Centrus Br. at 37. The full quote in Petitioners' comment letter is, "According to a recent report issued 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].'" (Idx 55, Lodge Comment Letter p. 3, Apx 185). Petitioners' letter set out scientific and practical facts stating why high assay low enriched uranium poses proliferation problems, including that it is possible for the new fuel to be used to make a thermonuclear weapon. Centrus tacitly agrees that proposition is true by arguing, not the impossibility, but only its supposed unlikelihood.

Centrus also claims that since there will be fewer centrifuges pursuant to the proposed license amendment than in the prior enrichment projects at the Piketon site, that the impact is obviously less. But that argument conveniently ignores the reality that the resulting enriched uranium will have from four to six times the Uranium-235 concentration of the earlier enrichment products from the Centrus facility. Centrus also sidesteps American Centrifuge Operating's documented intentions of scaling up the number of centrifuges to meet demand. The switch to producing a richer type of uranium fuel, along with the company's preparedness to

expand manufacturing of it support the Petitioners' request for an Environmental Impact Statement. American Centrifuge's chronology of previous EAs and EISes compiled on earlier enrichment license requests at the Piketon facility is legally irrelevant, because Petitioners' issue is the dramatically increased uranium concentration of high assay low enriched uranium over prior fuel mixtures. No prior EA or EIS addresses Uranium-235 fuel above 10% concentration. Centrus/American Centrifuge Operating seek permission to enrich Uranium-235 to unprecedented levels, a prospect never contemplated in previous license requests.

A. Terrorism Is A Legitimate Aspect Of NEPA Analysis

Anticipated acts of terrorism must be part of a NEPA evaluation, according to two somewhat conflicting cases, *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016 (9th Cir. 2006) and *New Jersey Dep't of Envtl. Prot. v. NRC*, 561 F.3d 132 (3rd Cir. 2009). While Centrus accuses Petitioners of "inexcusably" omitting to mention *New Jersey* in their initial brief, *San Luis Obispo* is more persuasive in terms of its applicability to new, as opposed to continuation, licenses issued by the NRC.

In *San Luis Obispo*, the Ninth Circuit held that NEPA requires terrorism to be considered in evaluating environmental impacts. The court first considered whether the likelihood of a terrorist attack was too far removed from the natural

and expected consequences of the agency action, and concluded that the question of the relationship between the agency action and the expected consequences was akin to the concept of proximate cause in tort law expressed in *Metropolitan Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 103 S.Ct. 1556 (1983). The court analyzed for (1) a major federal action; (2) a change in the physical environment; and (3) an effect. The Ninth Circuit found a proximate cause relationship between the federal action to license construction of a spent nuclear fuel storage installation and the resulting attraction the new spent reactor fuel storage facility might have for potential terrorists. The court noted that the NRC's review of terrorist threats to nuclear facilities after the September 11, 2001 attacks effectively comprised an admission that there was a direct connection between nuclear facilities and terrorism.

In the Third Circuit decision of *New Jersey Dep't of Envtl. Prot. v. NRC,* the petitioners challenged the relicensing of the Oyster Creek nuclear reactor. The court considered whether the federal action – a subsequent license extension – could be deemed the direct cause of the environmental impacts of terrorism. The Third Circuit ruled that merely relicensing an existing reactor would not make terrorism any more likely than it had been previously, so NEPA did not require an evaluation of terrorism. Consequently, if the federal action does not create a new

or increased risk of terrorism, NEPA does not require an analysis of the environmental impact of terrorism. In *San Luis Obispo*, the proposal was for a new radioactive waste storage facility on the site of the reactor, whereas in *New Jersey*, the action involved an existing license renewal where there would not be a change which produced a new proximate cause to any likelihood of terrorist activity.

In the present matter, Petitioners contend that a new enrichment process to concentrate Uranium-235 to levels of up to 25% could draw possible terrorist interest as well as sabotage or nuclear weapons material trafficking scenarios. As the Petitioners said in their comment letter to the NRC:

> Uranium enriched to more than 20% is classified as "High enriched uranium" (HEU), which poses greater nuclear weapons proliferation concerns. When Iran announced recently that it was enriching uranium to 20%, many western countries expressed alarm because of nuclear weapons proliferation concerns. Under the final Iran nuclear deal, negotiated and signed in 2015, Iran was not allowed to enrich uranium beyond 3.67%. A civil enrichment plant designed to produce nuclear reactor fuel could easily be reconfigured to produce material for nuclear weapons. That's why such facilities pose nuclear proliferation risks and need to be rigorously safeguarded.

(Idx 55. Lodge Comment Letter, p. 2, Apx 184). This comports with the analysis in *San Luis Obispo,* where the federal action creates a direct link to the environmental impact.

B. Nuclear Proliferation Has Long Been Of Concern Under NEPA

As Petitioners noted in their initial brief, nuclear proliferation and security issues have long been recognized as logical topics for NEPA analysis. *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; the PEIS addressed nonproliferation and terrorism).

The Federal Respondents cite *NRDC v. NRC,* 647 F.2d 1345 (D.C. Cir. 1981) for the proposition that NEPA does not apply to federal licensing of nuclear reactors for export to foreign nations. Fed. Resp. Br. at 43. In *NRDC*, the basis of the court's decision was that the claimed environmental impacts would be completely extraterritorial, *i.e.*, outside the United States, that shipping a reactor to the Philippines would not implicate any domestic U.S. impacts. By contrast, the Petitioners' present concern is that high assay low enriched uranium, which will be domestically produced, might become an objective or target of terrorism, sabotage or nuclear weapons trafficking (proliferation). Therefore, the NRC is obliged to undertake an EIS to evaluate foreseeable sabotage, terrorism or proliferation threats.

Notably, the court in *NRDC* expressly limited its decision to direct export of

nuclear reactors: "I find only that NEPA does not apply to NRC nuclear export licensing decisions — and not necessarily that the EIS requirement is inapplicable to some other kind of major federal action abroad." *Id.* at 1366. The D.C. Circuit also emphasized that NEPA requires agencies to:

> (F) recognize the *worldwide and long-range character of environmental problems* and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to *maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment*. (Emphasis added).

NEPA, § 102(2)(F), 42 U.S.C. § 4332(2)(F).

There is also executive authority for assessment of environmental impacts that may cross national boundaries. Executive Order 12114, "Environmental effects abroad of major Federal actions," 44 FR 1957 (Jan. 4, 1979), requires Executive Branch agencies to have procedures under NEPA to evaluate "major Federal actions significantly affecting the environment of the global commons outside the jurisdiction of any nation (*e.g.*, the oceans or Antarctica)" as well as "major Federal actions significantly affecting the environment of a foreign nation not participating with the United States and not otherwise involved in the action." *Id.* at § 2.3(a) and (b).

Section 102(2)© of NEPA (42 U.S.C. § 4332(C) requires the preparation of

an EIS for all proposals for federal actions significantly affecting the quality of the human environment. Nothing in that section limits the requirement for an EIS to projects that have only domestic impacts, so long as the proposed action is within the jurisdiction of an entity of the U.S. government. And since NEPA § 102(2)(F) obligates agencies to "recognize the worldwide and long-range character of environmental problems," the purpose of NEPA and its EIS requirement clearly is "to assure that the United States itself is never responsible for unanticipated environmental injury anywhere." Robinson, "Extraterritorial Environmental Protection Obligations of Foreign Affairs Agencies: The Unfulfilled Mandate of NEPA," 7 N.Y.U. Int'l L. & Pol. 257, 270 (1974).

The increase in fuel enrichment levels by four to six-fold between the current generation of operating power reactors and SMRs warrants scrutiny under NEPA. High assay low-enriched uranium fuel made from Uranium-235 that has been enriched to as much as 25% by volume could be used in a "dirty" nuclear device to, say, contaminate a neighborhood, or to provide starter material for enrichment to the 90% Uranium-235 concentration most desirable for nuclear weapons. High assay low enriched uranium can be moved about in black market transactions, has weapons utility even without further enrichment, and when manufactured in high volume (thousands of kilograms) opens the door to

proliferation concerns. There is significant justification for an EA or EIS to address the proliferation potential of this new fuel type.

C. The NRC Has A Central Role In U.S. Nonproliferation Policy

Centrus argues that the NRC does not have the power to address Petitioners' proliferation concerns because of its limited place in U.S. proliferation policy. Centrus Br. p. 40, citing *Department of Transportation v. Public Citizen*, 541 U.S. 752, 770, 124 S.Ct. 2204 (2004). Centrus points to § 123(a) of the Atomic Energy Act (42 U.S.C. § 2153(a)) as supposed proof that negotiation of nuclear technology export agreements is within the purview of the Department of State and not the NRC. Centrus trivializes the NRC's role under § 123 by not quoting the actual statutory language.

But it is a legal fact that the NRC holds a central role in regulating so-called nuclear "safeguards" procedures, which implement U.S. responsibilities as a signatory to the global Nuclear Nonproliferation Treaty. Regulations at 10 CFR Part 75 direct the NRC to ensure that the U.S. meets nonproliferation obligations under safeguard agreements with the International Atomic Energy Agency (IAEA). These obligations include providing information to the IAEA on the physical location of the NRC's licensee activities; information on source and special nuclear materials; and access to the physical location of applicant, licensee,

or certificate holder activities." 10 CFR § 75.1.

The NRC's responsibility extends to "all persons licensed by the Nuclear Regulatory Commission (NRC) . . . ; who have filed an application with the NRC to construct a facility or to receive source or special nuclear material; or who possess source or special nuclear material subject to NRC regulation under 10 CFR Chapter I." "Special nuclear material" is defined by Title I of the Atomic Energy Act to include Uranium-235. This means that high assay low enriched uranium is "special nuclear material," and that Centrus and American Centrifuge Operating consequently have nonproliferation accountability to the NRC. Centrus/ American Centrifuge Operating are required to report to the NRC their initial and subsequent inventories of Uranium-235 (10 CFR §§ 75.32 and 75.34); to compile material status reports (10 CFR § 75.35); to provide the NRC with advance notices of imports, exports or domestic transfers of enriched uranium (10 CFR § 75.43); supply facility information (10 CFR § 75.10(d)); and to report site information (10 CFR § 75.10(e)). Centrus and American Centrifuge Operating must supply information about nuclear fuel cycle-related research and development along with nuclear fuel cycle-related manufacturing or construction. 10 CFR § 75.11(b)(1, 2). As a nonproliferation regulator, the NRC is required to gather data on uranium mine and concentration plant information, including the physical locations,

operational status, and estimated annual production capacity and current annual production of those activities. 10 CFR § 75.11(b)(3). The Centrus facility is subject to inspection by representatives of the International Atomic Energy Agency respecting any aspect of the NRC's and the contractors' nonproliferation safeguards compliance. 10 CFR § 75.8.

Although § 123(a) of the Atomic Energy Act (42 U.S.C. § 2153(a)) requires the U.S. Secretary of State to negotiate proposed agreements to transfer nuclear technology, including fuel, to another country, the statute also mandates important involvement by the NRC. Section 123(a) mandates only "after consultation with the [Nuclear Regulatory] Commission shall the agreement be submitted to the President jointly by the Secretary of State and the Secretary of Energy accompanied by the views and recommendations of the Secretary of State, the Secretary of Energy, and the Nuclear Regulatory Commission." In sum, Centrus misleads the Court by claiming that the NRC "has no ability to prevent a certain effect due to its limited statutory authority over the relevant actions," the standard of *Public Citizen,* 541 U.S. at 770. However, the NRC's responsibilities range from regulatory oversight of its licensees to comply with the Nonproliferation Treaty to a significant role in decision making over § 123 nuclear technology exports. The NRC certainly can prevent certain effects by exercising its statutory

authority over activities that cause proliferation under § 123. Thus the NRC can "be considered a legally relevant 'cause' of the effect" under NEPA and must address Petitioners' proliferation concerns in its NEPA document addressing high assay low enriched uranium. *Public Citizen*, 541 U.S. at 770.

D. Petitioners Described Impacts On Domestic Uranium Supply Chain

The Federal Respondents argue that the impact of the American Centrifuge Operating project on uranium mining is too remote and speculative to justify being evaluated pursuant to NEPA. To the contrary, the EA prepared by the NRC states:

> 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 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. . . . Because this action is reasonably foreseeable, the environmental impacts from up to an additional 10 years of operation are considered in this EA.

(Idx 81, Environmental Assessment and Finding of No Significant Impact p. 4, Apx 205). In all, Petitioners cited and quoted four (4) different places in the EA which explicitly suggest the likelihood of a decade of operations to produce high assay low enriched uranium by American Centrifuge Operating after the first three contract years. See Petitioners' Br. at pp. 6-7. The NRC could not have been clearer that it expects the three-year demonstration project to inexorably lead to a subsequent 10-year agreement, and the NRC stated that the EA covered the

environmental impacts within that 10-year period. Changes in the amount of domestic uranium mining surely would be one environmental effect, inasmuch as there currently is almost zero uranium mining going on in the U.S.

Furthermore, the Purpose and Need statement in the EA clearly states that the "operation of the cascade would provide a domestic source of HALEU for possible use in future advanced reactors (ACO 2020a)." (Index 81, EA p. 5, Apx 206). The Department of Energy has stated that small modular reactors are a key part of the Department's goal of developing new nuclear power options.[1] The Department expects that small modular reactors will be in operation in the late 2020s to early 2030s, which falls within the 10-year period the NRC considered in the EA.

Uranium mining has significant environmental impacts. These impacts range from the creation of massive stockpiles of radioactive and toxic waste rock and sand-like tailings to serious contamination of surface and groundwater with radioactive and toxic pollutants, and releases of conventional, toxic and radioactive air pollutants. *See*, Uranium Mining: Nuclear Power's Dirty Secret, www.pembina.org.

[1]See, "Advanced Small Modular Reactors (SMRs)," https://energy.gov/ne/advanced-small-modular-reactors-smrs (last visited 5/24/2022).

III. THE NRC SHOULD BE REQUIRED TO PREPARE AN EIS OR PROGRAMMATIC EIS FOR THE AMERICAN CENTRIFUGE OPERATING LICENSE AMENDMENT APPLICATION.

Petitioners argue that the NRC should be required to prepare a Programmatic EIS because this demonstration project portends the start of a larger and foreseeable industrial production era over decades, with heavy DOE and NRC involvement. In opposition, Centrus asserts that American Centrifuge Operating is not currently taking steps to implement near-term deployment of a commercial scale enrichment facility, that additional licenses will be needed to expand the program. Centrus Br. at 44-45. Centrus urges (Br. at 45) that the development of a commercial market, which by definition would not be a market in which DOE was the sole or a dominant buyer, excuses EIS or PEIS scrutiny of high assay low enriched uranium. But that means that the Centrus demonstration project is the starting point of commercialization of the new fuel type and thorough NEPA investigation and analysis is warranted now.

The Federal Respondents argue that the NRC is not a participant or decisionmaker in any larger program and is not tasked with planning or committing resources to any broad federal policy supporting the commercial development or viability of advanced reactor fuels. Fed. Resp. Br. at 54. But the NRC will play the key role in the future licensing of advanced reactor fuels

manufacturing, and would be doing so in coordination with the Department of Energy. The NRC's central role in determining the future of high assay low enriched uranium underscores the requirement of an EIS at this early stage.

This controversy is not the NRC's first foray into proliferation matters and preparation of a Programmatic EIS. In the mid-1970's, the NRC began proceedings to ascertain the wisdom of reprocessing spent nuclear fuel to recover plutonium for the U.S. nuclear weapons program. In preparing a Draft Programmatic EIS, the NRC attempted to narrow the scope of the proceeding, which was challenged by critics of recycling plutonium. The Natural Resources Defense Council and others successfully sued to halt interim licensing of reprocessing facilities because a reprocessing policy would change how the U.S. would comply with its obligations under the Nuclear Nonproliferation Treaty. The International Atomic Energy Agency applies safeguards to nuclear material held or used in facilities under the Treaty's terms.

The Second Circuit Court of Appeals suspended licensing until the Programmatic EIS was done, because it recognized that recycling plutonium would be a dramatic shift in direction of the U.S. nuclear industry, with implications beyond domestic nuclear power expansion. The Court saw that a new technology may have environmental impacts that would not be apparent for years,

explaining as follows:

> The requirements of the NEPA apply to the development of a new technology as forcefully as they apply to the construction of a single nuclear power plant. It cannot be doubted that the Congress, in enacting NEPA, intended that agencies apply its standards to the decision to introduce a new technology as well as to the decision to license related activity; see 42 U.S.C. § 4331(a) (1970); S.Rep. No. 91-296, 91st Cong., 1st Sess., 20 (1969). The fact that the environmental effects of such a decision about a new technology will not emerge for years does not mean that the program does not affect the environment or that an impact statement is unnecessary; see *Scientists' Institute, supra*, 481 F.2d 1079, 1089-90 (discussing the technology of the uranium breeder reactor). In numerous cases involving the commercial introduction of a new technology, as well as in cases where the agency has undertaken isolated activity which the courts found to be in actuality part of a larger program, the courts have not hesitated to identify major federal action on the broader scale and to require the preparation of a regional or generic impact statement before allowing major federal action to proceed. *See Sierra Club v. Morton*, 169 U.S.App.D.C. 20, 514 F.2d 856 (1975), *cert. granted*, 423 U.S. 1047, 96 S.Ct. 772, 46 L.Ed.2d 635, 44 U.S.L.W. 3397 (1976) (requiring a regional impact statement for coal mining in the Northern Great Plains area); *Conservation Society of Southern Vermont, Inc. v. Secretary of Transportation, (Conservation Society I)*, 508 F.2d 927 (2d Cir. 1974), *vacated and remanded*, 423 U.S. 809, 96 S.Ct. 19, 46 L.Ed.2d 29, 44 U.S.L.W. 3199 (1975); *Scientists' Institute, supra* (declaratory judgment that the AEC must prepare a generic impact statement for the new technology of the breeder reactor); *see also Indian Lookout Alliance v. Volpe,* 484 F.2d 11 (8th Cir. 1973). Such broad-scale impact statements may be required for a series of major federal actions, even though individual impact statements are to be prepared for each isolated project; *see Sierra Club, supra*, at 871; *Scientists' Institute, supra*. Otherwise, agencies could take an approach "akin to equating an appraisal of each tree to one of the forest." *Jones v. Lynn,* 477 F.2d 885, 891 (1st Cir. 1973).

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Com'n, 539 F.2d 824, 841-842 (2nd Cir. 1976) (emphasis added). As Petitioners made clear in their comment letter, high assay low enriched uranium may be in demand as fuel for several small modular reactor designs under consideration. Those reactors are as yet unbuilt, but there is market anticipation for reactors requiring Uranium-235 fuel enriched to nearly 20%. The objection by the Federal Respondents that no Programmatic EIS is required because there are no other actions pending lacks merit. A Programmatic EIS is required when there is a program that will involve future actions. As the court said in *Nevada v. DOE*, 457 F.3d 78, 92 (D.C.Cir. 2006):

> A programmatic EIS reflects the broad environmental consequences attendant upon a wide-ranging federal program. The thesis underlying programmatic EISs is that a systematic program is likely to generate disparate yet related impacts. . . . [T]he programmatic EIS looks ahead and assimilates "broad issues" relevant to [the program] . . . .

There may be multiple major federal actions as the new reactor types proceed through the NRC licensing gauntlet, and those actions can be tiered to a Programmatic EIS. The development of high assay low enriched uranium is the basis for a long range program, by the NRC's own admission.

CONCLUSION

This case paints in stark relief two concepts: (1) the NRC has attempted to bury its NEPA obligation in a procedure virtually impenetrable to public view and

involvement, and (2) rather than "protecting people and the environment," as its motto suggests, by mandatorily considering whether a licensing action could be inimical to the common defense and security of the U.S. (required by 42 U.S.C. §§ 2077(c)(2)8 and 2099), the NRC is instead serving as a handmaiden for the nuclear industry.

The Petitioners are asking this Court to enforce NEPA's requirement to maximize public involvement and to ensure a thorough evaluation of the environmental impacts of the proposed project. It should not be difficult to understand that the uranium enrichment process which Centrus/American Centrifuge Operating has been hired to construct and operate portends significant environmental impacts which should trigger the requirement for an environmental impact statement. That is the relief Petitioners request.

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.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on this 7th day of July, 2022, I filed the foregoing Petitioners' Final Reply 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
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CERTIFICATE OF COMPLIANCE

The foregoing Petitioners' Proof Reply 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 Reply Brief contains 6,493 words.

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PETITIONERS' DESIGNATION OF ITEMS FOR INCLUSION IN DEFERRED APPENDIX

No additional appendix items were identified in this Reply Brief.