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March 30, 2021

Ms. Jean Trefethen
NRC Environmental Project Manager for Centrus
Via email only to Jean.Trefethen@nrc.gov

RE: American Centrifuge Plant; Docket Number 70-7004; License Number SNM-2011
License Amendment Request for American Centrifuge Operating, LLC's License
Application for the American Centrifuge Plant (ACP) in Piketon, Ohio

Dear Ms. Trefethen:

I am writing as counsel for the Ohio Nuclear Free Network (ONFN), a statewide association of people concerned about civil and defense uses of nuclear fission byproducts.

Tom Clements of Savannah River Watch has passed along to me his exchange of correspondence with you concerning the pending American Centrifuge Operating, LLC's (ACP) license amendment request, by which ACP would create, via a centrifuge array, high-assay low enrichment uranium (HALEU) as a "demonstration."

On behalf of the ONFN and the additional undersigned organizations, we request that the NRC conduct a nonproliferation review of the nuclear weapons, international and domestic terrorism implications of the ACP proposal, and that the NRC prepare a Programmatic Environmental Impact Statement (PEIS). A PEIS would bring in a wide set of issues, such as nuclear non-proliferation and the end use of the HALEU in various illusory reactor projects. A PEIS would also explicate the prospective effects on uranium extraction, which bear 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 depleted uranium waste 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 cannot ignore.

The proposal envisions the commencement of an entirely new generation of nuclear power reactors, fueled by HALEU, which would be uranium enriched up to 20%, with the Centrus High-Assay Low-Enriched Uranium Demonstration Project being allowed by the NRC

“to enrich small amounts of uranium up to 25% to factor in process fluctuations.”¹ Uranium enriched to more than 20% is classified as “highly 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.² Under the final Iran nuclear deal, negotiated and signed in 2015, Iran was not allowed to enrich uranium beyond 3.67%.³ A civil enrichment plant designed to produce nuclear reactors 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.⁴

There is also Pentagon interest in using HALEU in military nuclear power reactors. And American entrepreneurs are promoting small modular reactor (SMR) designs to foreign governments, including designs that would use HALEU fuel. The export of HALEU would require congressional action to allow it, under § 123 of the Atomic Energy Act (AEA).

These probable end uses of HALEU suggest that the demonstration program being proposed for Piketon signals commencement of a “major federal action,” as defined by the National Environmental Policy Act (NEPA). Just last April, Centrus stated that it “expects to have a fully licensed, operable HALEU production capability at a small scale that could be expanded modularly to meet commercial and/or government requirements for HALEU.”⁵

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, conducted, regulated, or approved by Federal agencies; new or revised agency rules, regulations, plans, policies, or procedures; legislative proposals; implementation of treaties and international conventions or agreements, including those implemented pursuant to statute or regulation; and formal documents establishing an agency's policies which will result in or substantially alter agency programs; and adoption of formal plans, such as official documents prepared or approved by Federal agencies, which prescribe alternative uses of Federal resources, upon which future agency actions will be based. The HALEU plan falls athwart nearly every one of those categories.

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*

¹Email, J. Trefethen to T. Clements (3/19/2021), <https://srswatch.org/wp-content/uploads/2021/03/Emails-between-Tom-Clements-and-NRC-on-Centrus-March-2021.pdf>

²<https://blog.ucsusa.org/elliott-negin/ask-a-scientist-iran-and-the-bomb>

³*Id.*

⁴*Id.*

⁵<https://www.centrusenergy.com/news/advanced-reactor-concepts-arc-and-centrus-energy-sign-letter-of-intent-for-haleu-supply/>

nuclear weapons development than the LEU [low-enriched uranium] used in LWRs [light water reactors].”⁶ (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.”⁷

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)⁸ or § 2099.⁹ 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.¹⁰

⁶Lyman, Edwin, “‘Advanced’ Isn't Always Better: Assessing the Safety, Security, and Environmental Impacts of Non-Light-Water Nuclear Reactors.” (Union of Concerned Scientists, Washington, D.C., 3/18/2021).

<https://www.ucsusa.org/resources/advanced-isnt-always-better#read-online-content>

⁷*Id.*

⁸“[The Commission shall not] distribute any special nuclear material or issue a license pursuant to section 2073 of this title to any person within the United States if the Commission finds that the distribution of such special nuclear material or the issuance of such license would be inimical to the common defense and security or would constitute an unreasonable risk to the health and safety of the public.”

⁹ The NRC may not grant a license application “if, in the opinion of the Commission, the issuance of a license to such person for such purpose would be inimical to the common defense and security or the health and safety of the public.” *Cf.*, 42 U.S.C. § 2099.

¹⁰The NRC staff's conclusion “that issuance of a draft FONSI for public comment would not further the purposes of NEPA” is incomprehensible in light of the significance of this project. Email, J. Trefethen to T. Clements, *supra*.

Proliferation and security issues have been a part of NEPA decision making since the inception of NEPA. *See Scientists' Institute for Public Information, Inc. v. Atomic Energy Commission*, 481 F.2d 1079 (D.C. Cir. 1973), where the Court of Appeals required the AEC to prepare a programmatic environmental impact statement (PEIS) on the AEC's Liquid Metal Fast Breeder Reactor (LMFBR) Program. Nonproliferation and terrorism were addressed in the subsequent LMFBREIS.

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 (AEC) settled the litigation by offering to prepare a generic Programmatic EIS on plutonium recycle, which later came to be known as the "Generic Environmental Statement on Mixed Oxide Fuel" (GESMO), No. RM-50-1, a document subsequently initiated by NRC as the successor to AEC for these matters). In 1976, the NRC began extensive administrative proceedings to compile a record on whether or not it was wise to reprocess spent nuclear fuel and recycle the recovered plutonium. In preparing a Draft EIS, the NRC attempted to narrow the scope of the proceeding, a position which was challenged, and in 1976 the NRC was required to supplement its GESMO Statement to cover issues related to protecting plutonium from theft, diversion, or sabotage.

But the critics of recycling plutonium, alarmed in part by comments by the President's Council on Environmental Quality (CEQ) to the NRC that GESMO failed to adequately address the special dangers of sabotage and theft posed by large-scale transportation of plutonium materials, successfully sued to halt interim licensing because it requires as-yet unidentified changes to how the U.S. would comply with its obligations under the Nuclear Nonproliferation Treaty (NPT). As a nuclear weapons state, the U.S. is a party to a voluntary safeguards agreement under which the International Atomic Energy Agency applies safeguards to nuclear material held or used in facilities. The Second Circuit, recognizing a possibly dramatic shift in direction of the U.S. nuclear industry, with implications beyond domestic nuclear power expansion, ordered a pause in NRC licensing to allow for the completion of the PEIS:

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).

Natural Resources Defense Council, Inc. v. United States Nuclear Regulatory Com'n, 539 F.2d 824, 841-842 (2nd Cir. 1976) (emphasis added).

In 2009, the U.S. Department of Energy (“DOE”) was required to address nonproliferation issues in its preparation of the “Draft Global Nuclear Energy Partnership Programmatic Environmental Impact Statement” (GNEP PEIS, DOE/EIS-0396). It attempted to do so by relying on a separate “Nonproliferation Impact Assessment: Companion to the Global Nuclear Energy Partnership Programmatic Environmental Impact Statement,” prepared by the Office of Nonproliferation and International Security of the National Nuclear Security Administration (NNSA). Along with several other NEPA matters, this artificial separation was challenged by commenting environmentalists. Subsequent to those critical comments, DOE ceased all work on the GNEP PEIS.

A proliferation review, conducted within the NEPA process, is essential and legally-required. Given the precedential nature of this HALEU demonstration and its potential terrorism and nuclear weapons proliferation implications, a PEIS and extended opportunity for public participation and comment before finalization of an agency decision is not only clearly warranted, it is legally required. Please suspend plans for issuance of an EA/FONSI immediately, and formally announce and commence a Programmatic Environmental Impact Statement on the proposed development of HALEU enrichment capability at Piketon.

Please put my request into ADAMS and make it publicly available. Please add my email address to the NRC’s Centrus listserv so that I can receive Centrus LCF, ACP and HALEU demonstration-related updates in the future, and also, please email me a link to an electronic version of the EA upon its issuance, should the NRC persist in that direction. Thank you.

Sincerely,

/s/ Terry J. Lodge

Counsel for Ohio Nuclear Free Network

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