Exhibit F

Comments of Will Herrick On Behalf of Kentucky Resources Council

On GLE-PLEF-EIS

To: GLE-PLEF-EIS@nrc.gov & Bridget.Curran@nrc.gov

Oct 6, 2025

Re: Docket ID NRC–2025–17007 (NB: the Federal Register / Vol. 90, No. 170 / Friday, September 5, 2025 / Notices Announcement p. 42988 lists this as Docket ID NRC–2025–1007)

The notice is titled:

NUCLEAR REGULATORY COMMISSION
[Docket No. 70–7033; EISX–429–00–000–1754990851; NRC–2025–1007]
Global Laser Enrichment, LLC;
Paducah Laser Enrichment Facility;
Notice of Intent To Conduct Scoping Process and Prepare Environmental Impact Statement

To Whom it may concern:

These comments are submitted by Will Herrick, and are endorsed by the Kentucky Resources Council and the Kentucky Conservation Committee. The comments are submitted in response to the Public Notice that the Nuclear Regulatory Commission (NRC) published September 5, 2025 at 90 *Federal Register* 42988 inviting comment on the scope of an Environmental Impact Statement (EIS) to be developed to support a decision on the request for a license by Global Laser Enrichment, LLC (GLE) to construct and operate a uranium enrichment facility in McCracken County, Kentucky.

In accordance with 10 CFR 51.28, Will Herrick, and the endorsing organizations, also request the opportunity to participate in the scoping process.

Introduction

My name is Will Herrick, and I am a resident of the Commonwealth of Kentucky. I am familiar with the civilian uranium fuel cycle. My parents were Nobel Laureate Harold Urey's research assistants at Columbia University when the mechanics of ^{235}U isotope isolation were developed and scaled up at Oak Ridge. My father, a PhD physical chemist specializing in the interaction of light and matter, was tasked to investigate light stimulated isolation of ^{235}U in 1944. Lasers didn't exist then, and gaseous diffusion became the only viable immediate means to isolate ^{235}U. While the 1999 US-Australia

SILEX treaty requires both nations to agree to military use, the original principles behind SILEX were first worked out by the Army Corps of Engineers and the Manhattan Project.

The National Environmental Policy Act requires that, for any major federal action significantly affecting the human environment there be prepared "an environmental impact statement, or EIS, identifying significant environmental effects of the projects, as well as feasible alternatives. The law ensures that the agency and the public are aware of the environmental consequences of proposed projects. Properly applied, NEPA helps agencies to make better decisions and to ensure good project management." *Seven County Infrastructure Coalition v. Eagle County, Colorado*, 145 S.Ct. 1497 (2025).

NEPA, and the regulations of the Nuclear Regulatory Commission implementing NEPA codified at 10 CFR Part 51, require that the "scope" of an EIS be determined through an open and early process to determine the range or "scope" of issues to be evaluated and considered in the EIS. The scope consists of the range and breadth of actions, alternatives, and effects to be considered in the EIS. As noted by the *Seven County* Court, the effects to be considered must consider not only those direct effects of the proposed action, but also those indirect effects even where those effects may fall outside of the geographical territory of the project or might materialize later in time; tempered by a "causal" connection between the proposed action and indirect effects. *Id.* p. 1515.

Against that background, the following discussion about the scope of the EIS for the GLE proposal is offered in four parts:

- The scale of environmental impacts to be evaluated
- Direct impacts to be evaluated
- Indirect impacts and consequences to be evaluated
- Reasonable alternatives to be evaluated

The Scale of Environmental Impacts

The environmental impact of a nuclear fuel production facility extends over longer periods of time than nearly any other enterprise. As a proposal to make and market nuclear fuel for use across the nation, the direct and indirect environmental impact is widespread. The significant temporal and terrestrial scale of impact of the proposal forms the basis for what must be a broadly-scoped EIS.

As required by 10 CFR Part 51, Global Laser Enrichment, LLC (GLE) has published a preliminary Environmental Report (ER) (https://www.nrc.gov/docs/ML2516/ML25164A078.pdf) for its plan to build and operate the Paducah Laser Enrichment Facility (PLEF). What follows are arguments that the scope of the PLEF Environmental Impact Statement (EIS) as framed and proposed by

GLE is far too narrow, and that the NRC decisions about what effects are deemed insignificant or peripheral to the EIS scope needs careful thought and independent evaluation.

As noted above, the proposed project will have long-lasting effects and the environmental quality, health, and safety impacts over the life of the radioactive isotopes resulting from enrichment and their immediate use must be considered. Recognizing the language in NEPA that speaks to limiting the temporal scope of an EIS, it is appropriate to use at a minimum measures of time scaled to the nuclear half-lives of the work product and its immediate use created by the proposed action, as those, relative to the No Action, are fundamental to the environmental impact of the proposed project.

The impacts of the waste generated throughout the life cycle of the enriched products must be considered. It is clear that NEPA limits the scope of an EIS to the proposed action at hand. Given that the declared purpose of the proposed action is to make fissile fuel for nuclear reactors, there is a reasonable, foreseeable and direct line to the production of (and the attendant obligations to manage) spent nuclear fuel in as little as 3-6 years. In the No Action alternative, no additional spent fuel is created. The effective impact of the proposed action's production of spent fuel is reasonably foreseeable and has a reasonably close causal relationship to the proposed action and hence, per NEPA, warrants inclusion in the scope of the EIS. These environmental impacts are not remote in time, geographically remote, nor the product of a lengthy causal chain. The impact of the proposed action will have long-term adverse effects on public health, safety, and the quality of life of the American people.

Anticipating the argument that the environmental impacts of the production of spent fuel by power plants using the fuel to be enriched by the proposed facility, on the basis that all nuclear power plants in the US have already filed an EIS, the creation, management, transportation, storage and other related issues must nevertheless be evaluated here. According to GLE's PLEF ER, "an initial planned maximum target annual production capacity of 2000 metric tons per year of equivalent-natural uranium hexafluoride (ENUF6) and 6 million Separative Work Units per year of low-enriched uranium (LEU)" is equivalent to roughly 45 tonnes of LEU, or about twice what a typical light water reactor burns through in a year. A site that generates two times what a typical reactor makes is a significant difference over the baseline that must be evaluated anew.

Per the Council on Environmental Quality's (CEQ) recent guidance on implementing NEPA and scoping an EIS, agencies must analyze and disclose the "reasonably foreseeable environmental effects of the proposed agency action;" and include "any reasonably foreseeable adverse environmental effects which cannot be avoided should the proposal be implemented;" and also consider "any irreversible and irretrievable

commitments of Federal resources that would be involved in the proposed agency action should it be implemented."

In the context of scoping the GLE PLEF EIS, sometime the NRC gets things wrong. As an example, facts offered in NRC's recent notice in the Federal Register to invite scoping comments from the public by October 6th 2025 are no longer true: the current government shutdown has taken the proffered record access in the ADAM document repository offline. The takeaway from that empirical deviation from NRC's assertions is that what one wishes or believes to be true may in fact not always be the case. The NRC should not be entirely confident that they can dismiss or exclude aspects of environmental risk. The evidence is that they don't always know what the future will hold.

The EIS must consider the expanded project that is planned for the site, including the proposed movement of the Wilmington license to a Paducah site, that seems to be directly associated with this project. Foreseeable changes must be included in the analysis, including where appropriate foreseeable additional or amended license associated with the proposed project. After nearly a decade where GLE lost partners and investors, changed management, and made no use of the NRC license it had been granted, GLE now wants to revise the deal, and NRC appears willing to entertain those changes. GLE wants PLEF to be a production site to make 8% HALEU, rather than a demonstration project, and that's a big change. Scoping the EIS to include the full gamut of plausible foreseeable circumstances is required beyond what may have been evaluated at a smaller scale or alternative location.

The PLEF site's environmental conditions, contamination history, and seismic characteristics of this site are unique and demand a site-specific analysis under the National Environmental Policy Act ("NEPA"). The Environmental Impact Statement ("EIS") must therefore distinguish between Category 1 and Category 2 issues, ensuring that all site-specific Category 2 concerns are fully evaluated. 10 C.F.R. Part 51, Appendix B to Subpart A — Environmental Effect of Renewing Operating Licenses for Nuclear Power Plants (Table B-1). Additionally, the NRC must consider direct, indirect (or downstream), and cumulative effects, as well as all reasonable alternatives—including the no-action alternative—consistent with 40 C.F.R. § 1502.14 and 10 C.F.R. Part 51.

Direct Consequences

The GLE Environmental Review details two products to be made at the PLEF- ENUF6 (ore equivalent UF6) and ^{235}U enriched up to 8%:

1) The ENUF6, as detailed below, will mostly come back to PGDP or PLEF as more depleted UF6 waste tailings. It will come back after having the extracted then re-blended ^{235}U re-extracted as a SILEX feedstock.

2) LEU/8%HALEU that hopes to find a commercial market. The LEU has a world-wide opportunity to fuel existing NPPs, but the HALEU market is speculative. There are only a handful of research reactors built to use fuel enriched to 8% or more ^{235}U. The commercial small radius core reactors that require HALEU have not been built nor licensed. The demonstration HALEU SMRs are just now being built in this country (though most were in fact already designed and tested in the 1945-1975 era , but those are all offline now). The demonstration Russian and Chinese SMRs are not performing well[1.]

***The EIS must consider the life cycle and waste created by these products*.**
Absent from the GLE PLEF Environmental Report is a clear and sufficient outline of the life cycle of the DUF6 feedstock used by PLEF. GLE celebrates the notion that a waste product, the DUF6 tailings, becomes a valuable asset when re-enriched to natural ore equivalency, but understates the fact that once that valuable asset is run through the SILEX process again (to make LEU for example) it returns to waste status and is sent back to PLEF or Paducah. After the ENUF6 is re-re-processed to make that bit of LEU, the re-depleted UF6 tailings are returned to PLEF or PGDP. There is little net change in the mass of depleted UF6, and the short- and long-term impacts of that extended storage must be thoroughly assessed

Externalizing the utility of the PLEF work product and its inevitable yield of waste is a convenient way for PLEF to ignore issues that deserve consideration in the EIS. There are exactly three outcomes for the separative work done at the proposed PLEF: the ^{235}U is stored unused in some secure site (making all the claimed benefits moot and the project a waste of time and taxpayer's dollars), or it becomes LEU/HALEU that is transmuted to Spent Nuclear Fuel (SNF) after 3-6 years in a nuclear core, or should both the US and Australia agree per their treaty, it becomes military grade HEU with all the associated environmental damage on scales well beyond Hiroshima or Nagasaki. When compared to the EIS assessment of No Action, all these outcomes have significant environmental impacts. NRC may argue they can be ignored, but in plain fact they are inevitable outcomes that would not happen in the No Action instance.

The reasonably foreseeable impacts of militarization and proliferation must also be considered.

Rarely mentioned, SILEX has serious proliferation issues.[2] Fast neutron HALEU fueled reactors may operate as plutonium breeders. Tunable laser enrichment facilities are are

[1] https://www.powermag.com/a-closer-look-at-two-operational-small-modular-reactor-designs/

relatively small. Compared the centrifuge arrays, they are easy to hide. It is not be in our best interest for the nation to lower the cost of entry to plutonium production or make it easy to hide a ^{235}U isolation facility.

Recall how A.Q. Kahn stole ultracentrifuge technology, traded that technology to China in exchange for fissile stocks and reactor designs. Pakistan then made nuclear bombs. SILEX is more attractive than centrifuges. Many examples of nations diverting US provided nuclear technology can be found. For example: India's use of plutonium separated with U.S. assistance in an “Atoms for Peace” program to make a nuclear explosion in 1974. The U.S. Government suspected that Brazil, Pakistan and South Korea were interested in separating plutonium for weapons purposes.’[3]

Producing 8% 235U, as proposed by the PLEF, makes the immediate feedstock for enriching to yet more enriched HALEU. The June 2024 report by R. Scott Kemp, Edwin S. Lyman, Mark R. Deinert, Richard L. Garwin, and Frank N. von Hippel titled “The weapons potential of high-assay low-enriched uranium” explains the risks of HALEU in detail.[4] They report that the 19.75% HALEU fuel assembly from a single reactor, less than a 1000kg mass, has the potential to be directly reshaped to a critical [nuclear explosive] geometry. They further report that 10 of the next generation HALEU designs funded for proof of concept by the U.S. Department of Energy (DOE) and Department of Defense (DOD) use more than a tonne of HALEU fuel.

The executive order of May 29, 2025 (https://www.federalregister.gov/documents/2025/05/29/2025-09801/reinvigorating-the-nuclear-industrial-base) to expand domestic uranium enrichment for both civilian and military reactors reminds me of the 1980s decision to remove the restriction on using civilian reactors to produce tritium. That policy change is a model of how civilian nuclear reactors and their fuel can be repurposed for military use. By the late 1980s the US military had lost the means to produce tritium. The TVA’s Watts Bar Unit 1, a civilian facility, was then tasked to produce tritium to rejuvenate aging hydrogen bombs. However unlikely, sometime in the next 40 years, SILEX isolated fissile fuels may go the way tritium did and become a military asset directly, or be used to produce tritium while operating in a civilian reactor. Plausible direct outcomes should qualify for scope and attention in the PLEF’s EIS.

The EIS and associated analyses must also consider the substantial risk that the market for the products to be generated does not materialize as presented.

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2 https://www.laserfocusworld.com/lasers-sources/article/16558982/silex-laser-uranium-enrichment-technology-may-create-new-nuclear-proliferation-risks

3 https://www.tandfonline.com/doi/full/10.1080/08929880903445514

4 Science,6 Jun 2024,Vol 384, Issue 6700, pp. 1071-1073, also available as https://rlg.fas.org/haleu-science.pdf

It took some 30 years for the NRC to sort out the light water reactors we now license and use. It's likely that SMRs, after some 10-15 years of licensing and construction, will see a similar shakedown period. History suggests that the HALEU market will endure slow growth for some 25-50 years. This prolonged market development means that the benefits described in the GLE Environmental Review are overstated-the HALEU market isn't likely grow as fast as GLE has suggested or diverge so quickly from the "No Action" baseline. The GLE PLEF EIS must consider the case where the PLEF is built and operated, but the HALEU benefits don't measure up to GLE's projections.

The GLE PLEF EIS needs to include discussion of what happens if the ^{235}U fuel market declines and consumers of the ENUF6, LEU or HALEU fail to buy. NPPs have been taken offline permanently after a big event like TMI, Chernobyl, or Fukushima. As the world's inventory of NPPS grows and age, the opportunity for a calamitous event continues to put the fissile fuel market at some risk. Also, competing methods of carbon free dispatchable energy production are advancing, both by returns to scale and from improved technology. In a free market over the next 40 years they will sway some customers away from NPPs.

History also offers the Global Nuclear Energy Partnership (GNEP) model. It has strong similarities with the current federal nuclear promotions. GNEP not only failed but arguably it led to an international contraction in the the uptake and investment in nuclear power for two decades.

Contrary to the GNEP goals, that initiative led to a federal constriction of plans and funding. A 2008 article in the Bulletin of the Atomic Scientists[5] on the future of GNEP states: "...last year, an increasingly skeptical Congress, following the lead of the House and Senate Energy and Water Appropriations Subcommittees, barred Energy from building a reprocessing facility or a fast neutron reactor. And recently, Energy announced that it would no longer consider "project-specific proposals for the siting, construction, and operation of a nuclear fuel recycling center, an advanced recycling reactor, and an advanced fuel cycle research facility." Instead, it said it would focus on the feasibility of the technologies. This decision may result in less active local support for GNEP, now that the near-term construction of reprocessing and fast reactor facilities seems less likely."

A 2008 Congressional Research Service (CRS) study[6] also points out that: " Congress has itself raised concerns about GNEP. In the Consolidated Appropriations Act FY2008

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[5] Leonor Tomero , 8 August 2008, http://www.thebulletin.org/web-edition/reports/the-future-of-gnep/the-future-of-gnep-domestic-stakeholders

[6] www.fas.org/sgp/crs/nuke/RL34234.pdf Congressional Research Service ,"Managing the Nuclear Fuel Cycle: Policy Implications of Expanding Global Access to Nuclear Power" March 7, 2008

(P.L. 110-161), Congress provided $181 million out of $395 million requested by the administration. Of this amount, $151 million is for research, development, and design activities, with no funds for constructing facilities for technology demonstration or commercialization."

A 2010 article in the Scientific American describes the nuclear industry in the U.S. as "in a coma".[7]

The GNEP initiatives here in the Commonwealth only invited a failed ambition in 2008 to re-purpose the Paducah Gaseous Diffusion Plant[8] [9] to reprocess spent nuclear fuel.

Given how few megawatts evolved in the U.S.A. from the GNEP initiative, it is worthwhile for the NRC to consider what happens if the current effort yields the same results. The EIS must evaluatethe instance where all the resources are developed, but the market value of the PLEF products doesn't hold up and the benefits of the planned action are significantly reduced.

The EIS must consider the electricity use of the proposed project.
GLE's Environmental Report details the need for new electrical substations. Tunable lasers use electricity. Compared to No Action, the gigawatts of electricity consumed by PLEF constitute an irreversible and irretrievable commitment of resources. The local power plants are carbon combustors and the TVA both burns coal and uses nuclear power plants to make electricity. A resource consumed by the PLEF must be included in the scope of the EIS. As fissile fuel irreversibly becomes SNF when used, a resource irretrievably consumed to make the fuel is then also a resource consumed to make SNF. Even if that resource has a prior EIS, unless that prior EIS has clearly included using the resource to make SNF, that prior EIS cannot be the basis to dismiss consideration of the environmental impact of the PLEF consumed energy.

The risks of releases to the air, groundwater, and water as a result of seismic activity and severe climate events must be considered.
The PLEF Environmental Report downplays the risks of earthquakes, but the New Madrid fault was cited by USEC as a large part of why they chose Portsmouth near Piketon Ohio over Paducah to site their ultra-centrifuge ^{235}U isolation arrays in 2002. SILEX is not gaseous diffusion, and that's its best argument for earthquake resilience. However, the last big New Madrid quake leveled or damaged most structures in the area around Paducah. Damage was observed as far away as St. Louis. Cleaning up a damaged structure full of strong acids, large gauge electrical infrastructure, heavy metals

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[7] https://www.scientificamerican.com/article/is-the-nuclear-renaissance-failing/

[8] http://web.archive.org/web/20070922220512/http://www.paducahgnep.com/

[9] https://web.archive.org/web/20081017091431/http://www.gnep.energy.gov/peis/peisprocess.html

and fissile materials has more environmental impacts than bulldozing a leveled structure that has none of those components into a permitted onsite construction debris landfill. Furthermore, severe climate events including tornadoes and flood events are increasing in frequency in Kentucky.

Indirect Consequences

A 2009 Vermont Law School report by Mark Cooper introduced arguments and trends that have largely held.[10] The report documents a comparison of original estimated costs for NPPs versus the observed final costs, typically with between 1:2 and 1:4 ratios. Price trends documented in the report for carbon neutral alternatives have also played largely as described, with costs dropping steadily with returns to scale and technology advances. NPPs have shown little progress in cost reduction, design safety, fuel safety, risk of SNF diversion or SNF waste management.

The argument that nuclear power is the solution to global warming has never held up. The June 1990 report by Alan Miller and Irving Mintzer in the Bulletin of the Atomic Scientists detailed that NPPs would need to be installed at a 16% growth rate to meet minimal impacts on global warming, but nations around the world would be bankrupted by that growth rate and that it wasn't possible to train and educate the needed staff to operate the reactors that quickly. They finally concluded that the initial global warming outcome was made worse by the mining and construction needed at growth rates above 7%.[11] Manifestly, the rate of adding NPPs around the world never approached such rates.

Nuclear power often claims to be a clean energy source. However, the DOE's 2025 federal budget for Environmental Management (EM) reports staggering and escalating costs.[14] The budget quantifies the waste to be managed: "The EM program is responsible for the cleanup of millions of gallons of radioactive waste; the safe management and disposition of thousands of tons of spent nuclear fuel and nuclear material; disposition of large volumes of transuranic waste and mixed low-level waste; remediation of huge quantities of contaminated soil and groundwater; and deactivation and decommissioning of thousands of excess facilities." The EM budget is an authoritative deep dive into the real costs of nuclear facilities. It belies the notion that nuclear power is clean energy.

If "No Action" is a baseline, the offsite impacts of "Action" that were included in GLE's list of benefits in the Environmental Report lie within the four corners of the EIS. As

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10 http://large.stanford.edu/publications/power/references/nirs/docs/cooperreport_neconomics062009.pdf pp1-7

11 Alan Miller & Irving Mintzer (1990) Global Warming: No Nuclear Quick Fix, Bulletin of the Atomic Scientists, 46:5, 31-34, DOI: 10.1080/00963402.1990.11459844

14 https://www.energy.gov/sites/default/files/2024-03/doe-fy-2025-budget-vol-6-v2.pdf

included in that list, the EIS scope must consider the increase in number and impact of the employees on the local environment for the 40 year term of the PLEF agreement.

Alternatives

In evaluating the no action alternative, and developing other reasonable alternatives, the substantial body of evidence that other reliable energy sources result in substantially lower costs must be considered.

Lazard's June 2025 report, "Lazard's Levelized Cost of Energy"[15] documents the current price of energy production alternatives. The 2025 report validates Cooper's 2009 predictions and finds that NPPs are and will be the most expensive per GW energy source.

In June 2025, Stanford University professor M.Z. Jacobson released a pre-print of a Cambridge University Press article where he asserts that nuclear reactors will not be able to help address global warming or air pollution in a rapid or meaningful way. Instead, money spent on them will prevent faster and less expensive solutions from being implemented. Spending money on NPPs exacerbates the climate and air-pollution problems the world faces and is an opportunity cost.[16]

Alternative energy policies include the safer, cheaper, and more reliable solar systems with storage. A current example is the distributed solar powered infrastructure in Puerto Rice that evolved a result of losing their centralized grid to severe weather events. Incentives offered to the US grid operators (MISO, PJM et al) to embrace distributed production will make distribution of alternatively sourced electricity effective. Wind or hydro with expanded demand side management and large scale batteries (train car size salt batteries, etc) can provide dispatchable energy. Conservation has a proven track record.

In spite of bringing two NPPs online in Georgia recently, two coal fired power plants slated to retire in the next decade will be kept running to meet an anticipated need for data centers that may come to the state.[17] This suggests that not only is the long delay from initiation to going on line prohibitive for NPP powered data centers, the cost of electricity from an operating NPP is already too high. Technical improvements in AI hardware are already driving down the KW demands for AI (viz: the website ai-benchmark.com/ranking_processors_detailed.html). Requiring AI data centers to provide their own energy will drive terrific innovation, both in reducing the wattage demands and in immediate production of carbon neutral production of electricity.

[15] https://www.lazard.com/media/uounhon4/lazards-lcoeplus-june-2025.pdf
[16] https://web.stanford.edu/group/efmh/jacobson/WWSStillNMN/SNMN-WhyNotNuclear.pdf
[17] https://www.utilitydive.com/news/georgia-power-irp-coal-gas-plants-data-centers/753170/

In developing reasonable alternatives to be assessed and compared, the excess energy, capital, and labor needed for the proposed project must be compared to the use of ore to generate the same products. The first demonstration SILEX project proposal failed when the anchor companies left.[18] [19] While a full license to construct and operate a plant of up to 6 million SWU/yr using natural uranium at Wilmington, NC was issued to GLE in September 2012 , the GLE PLEF Environmental Review never considered or compared the planned action to the alternative that just used natural uranium based UF6. Relative to using the ubiquitous and plentiful natural ore, the energy, capital, and labor needed to first isolate the fissile component from the DUF6 tailings is wasted when that fissile fraction is downblended with depleted tailings to make ENUF6. That natural ore equivalent has to be processed a second time to begin to make LEU or HALEU. The EIS must include a comparison of the proposed action to one that uses UF6 made from natural ore.

The No Action alternative must be fully developed and fairly considered, emphasizing continued Department of Energy ("DOE") remediation and environmentally responsible reuse of the Paducah site, prioritizing long-term restoration and protection of human and ecological health over new nuclear processing activities.

Thank you for considering these additions to the PLEF EIS scope.

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[18] https://optics.org/news/5/7/48

[19] https://web.archive.org/web/20240621082515/https://www.world-nuclear-news.org/UF-GE-Hitachi-to-exit-laser-enrichment-JV-1904168.html