United States Senate

WASHINGTON, DC 20510

March 10, 2026

Chris Wright
Secretary
Department of Energy

Subject: Categorical Exclusion for Advanced Nuclear Reactors

Dear Secretary Wright:

I write with deep concern about DOE's decision to establish a categorical exclusion (CE) for full life-cycle operations of advanced nuclear reactors pursuant to its recently revised National Environmental Policy Act (NEPA) implementing procedures.

I am a strong supporter of nuclear energy and its ability to provide safe, clean power to meet our nation's energy demands. American nuclear innovation, including the development of new advanced reactor technologies, can achieve improved safety and efficiency. But the delivery of such performance improvements should be assured—not assumed.

America's ability to operate the world's largest nuclear fleet and achieve our goals of nuclear growth depends upon continued public trust in nuclear safety and protection of communities and the environment from radiation exposure. DOE's CE for advanced reactors and weakening of its nuclear energy directives risk undermining that trust, exposing the American public and environment to avoidable hazards, and threatening confidence in the industry at large.

DOE cannot credibly claim that the advanced reactor CE as written covers a category of actions that "normally does not significantly affect the quality of the human environment," the legal threshold to create a CE.[1] First, DOE justifies this CE with sweeping claims about the inherent safety of advanced reactors—but intent to achieve the safety attributes of an advanced reactor does not mean that safety will be achieved, particularly for the experimental technologies seeking DOE authorization. Second, advanced reactors vary widely across design features and potential hazardous materials present. First-of-a-kind reactors merit dedicated environmental review that cannot be adequately addressed in a generic CE. Third, DOE's advanced reactor CE is substantially more lenient than relevant existing CEs, with no restrictions on project duration or scale. Finally, the creation of the CE comes alongside sweeping changes to DOE's nuclear energy directives and policies, which remove or weaken safety, health, and environmental requirements.

I. Advanced reactors are not automatically safe just because they claim to be "advanced."

DOE's CE justification is based on sweeping and decisive claims about advanced reactors' improvements in performance, stating that "advanced nuclear reactors have key attributes... that limit adverse consequences from releases of radioactive or hazardous material," citing the "inherently safe designs" of advanced reactor projects, claiming without caveat that "new reactor

[1] 42 USC 4336e(1).

designs and their associated fuels ensure containment of radionuclides in the event of an accident," and positing that "advanced nuclear reactors are designed so that radioactive material remains contained."[2]

However, there is no standard set of design characteristics that is guaranteed to achieve the improved safety attributes of an advanced reactor—numerous possible risk reduction measures could be used but are not guaranteed to appear in any given design. DOE's written record of support in one instance states that "advanced reactor projects in this category typically employ inherent safety features and passive safety systems," further reinforcing that such safety features are not a universal feature of an advanced reactor.[3]

Furthermore, it is circular logic to claim that a project will achieve the safety characteristics of an advanced reactor simply because it intends to. New, untested nuclear reactor designs cannot be assumed to be inherently safe by virtue of being "advanced reactors."

Congress has supported the development and deployment of advanced reactors in the ADVANCE Act and Nuclear Energy Innovation and Modernization Act. These technologies have enormous promise—but, as with any nuclear technology, risks must be adequately understood and, as necessary, mitigated in order to succeed. Failure to address such risks for even a handful of technology developers threatens confidence in the technology suite as a whole.

These risks are particularly relevant for reactors proceeding under DOE authorization, which under Atomic Energy Act authorities cannot include commercial reactors or demonstration reactors operated to show commercial suitability. Such R&D-stage projects by definition include novel approaches that may not have yet been proven to achieve the safety goals of an advanced reactor.

II. Advanced reactors encompass a wide range of potential characteristics that merit dedicated review for first-of-a-kind designs.

Beyond diversity in potential safety features, advanced reactors also vary widely in size, coolant technology, fuel type, and other design features, creating numerous permutations in reactor design that uniquely affect a reactor's environmental footprint. For example, the 1.1 GW AP1000 reactor is considered by some to be an advanced reactor, even though it is magnitudes larger than a potentially kW-scale microreactor. Even reactors of a similar size can vary fundamentally in project design. Findings of No Significant Impact (FONSIs) in past advanced reactor reviews do not guarantee the same findings for future reactors that may not meaningfully share characteristics with previously assessed projects.

The DOE Reactor Pilot Program highlights this diversity in advanced reactor technologies—and the need for dedicated environmental review. Many materials, components, and risk-mitigating features of projects selected in the Reactor Pilot Program have foreseeable hazards or documented regulatory shortcomings. Aalo Atomics, Antares Nuclear, Natura Resources, Oklo,

[2] U.S. Department of Energy, "Categorical Exclusion for Advanced Nuclear Reactors," Written Record of Support, 2026 February 02.
[3] U.S. Department of Energy, "Categorical Exclusion for Advanced Nuclear Reactors," Written Record of Support, 2026 February 02.

and Terrestrial Energy are using alternative coolants such as salt or liquid metal, which may necessitate the use of additional hazardous chemicals to prevent other undesirable chemical reactions, mitigate reactor component degradation, or manage fission products.[4] Publicly available renders for Deep Fission, Last Energy, and Radiant Industries' reactor designs contain minimal containment and shielding, which could cause surrounding soils to become radioactive.[5] Valar Atomics is shielding their reactor with 3 million pounds of concrete, which will become radioactive over time, with no public plan to manage this material after decommissioning.[6] Information on Radiant Industries' webpage implies that the company does not intend to conduct heat testing—a typical procedure to verify safe operation of reactor components before loading fuel—between its reactor installation and full power operation.[7] NRC feedback to Atomic Alchemy as part of its pre-application process repeatedly pointed to missing information that would be needed to conduct a safety analysis.[8]

The suite of nuclear technologies that DOE is evaluating is too diverse and nascent to be covered under such a general CE. The generic integral elements of DOE's NEPA implementing procedures were not designed to account for the cumulative presence of several different hazardous chemicals and neutron sources unique to each advanced reactor design without dedicated analysis of these interactions. Further investigation, which would take place through an environmental assessment or environmental impact statement, is needed to address the specific and possibly complex permutations and interactions of these technology designs.

III. The advanced reactor CE is significantly more lenient than relevant existing CEs.

The advanced reactor CE is the first and only DOE CE for a nuclear fission facility. Its scope is significantly greater than those of existing CEs for energy activities. It contains no restrictions on project size, meaning even commercial-scale projects could be included. It covers full lifecycle activities (authorization, siting, construction, operation, reauthorization, and decommissioning) and contains no limitation on project duration, meaning that a project could operate continuously for decades. It also permits inclusion of multiple reactors within a single facility under the CE, multiplying the potential environmental impacts of a single reactor.

Apart from the newly created advanced reactor CE, only 2 of DOE's 109 CEs specifically relate to nuclear materials, both of which apply only to limited operational activities. One allows the

---

[4] Aalo Atomics, "Aalo-X" webpage, https://www.aalo.com/aalo-x, accessed 2026 February 27; Antares Nuclear, "Antares" webpage, https://www.antaresindustries.com, accessed 2026 February 27; Natura Resources, "Natura Resources" webpage, https://www.naturaresources.com, accessed 2026 February 27; Oklo, "Technology" webpage, https://www.oklo.com/technology/default.aspx, accessed 2026 February 27; Terrestrial Energy, "Terrestrial Energy" webpage, https://terrestrialenergy.com, accessed 2026 February 27.

[5] Deep Fission, "Technology" webpage, https://deepfission.com/technology, accessed 2026 February 27; Last Energy, "Last Energy" webpage, https://www.lastenergy.com, accessed 2026 February 27; Radiant Industries, "Radiant" webpage, https://www.radiantnuclear.com, accessed 2026 February 27.

[6] Valar Atomics, "The Modular Citadel" video, youtube.com/watch?v=AEZvs0xpP1A, 2026 January 27.

[7] Radiant Industries, "Radiant" webpage, https://www.radiantnuclear.com, accessed 2026 February 27.

[8] Office of Nuclear Reactor Regulation, "E-mail Capture – Report on the tertiary pre-submittal regulatory audit of the Atomic Alchemy, Inc preliminary safety analysis report (EPID L-2023-LRM-0024)", Nuclear Regulatory Commission, 2024 May 6; Office of Nuclear Reactor Regulation, "Report on the pre-submittal regulatory audit of the Atomic Alchemy, Inc preliminary safety analysis report (EPID L 2022 LRM-0075)", Nuclear Regulatory Commission, 2023 April 20.

refueling of operating nuclear reactors, and another allows for the approval of import or export of small quantities of special nuclear or isotopic materials.[9] Otherwise, every reference to nuclear equipment, fuel, or waste in DOE's CEs is to exclude nuclear materials from existing CEs, illustrating the unique risks of such nuclear activities.

DOE also has an existing CE for the siting, construction, modification, operation, and decommissioning of small-scale research and pilot projects, which is not specific to any particular technology. This CE restricts siting to previously disturbed areas, excludes demonstration-scale projects, and excludes projects lasting more than 2 years—making it significantly more limited than the advanced reactor CE.[10]

Each of the 25 other DOE CEs applicable to conservation, fossil, and renewable energy activities (the category in which this advanced reactor CE is established) includes restrictions such as allowing only modification of existing systems; imposing siting restrictions; applying only to R&D, pilot, or small-scale projects; or otherwise not covering the full lifecycle of a project.[11]

The tremendous breadth of the advanced reactor CE compared to DOE's existing practices raises serious questions and concerns.

IV. DOE's weakened nuclear directives further risk environmental harm.

DOE's written record of support for this CE cites nuclear safety requirements under 10 CFR Part 830 and other DOE standards and policies as means by which safety hazards and environmental consequences will be mitigated.

However, on February 12, 2026, DOE published sweeping changes to its 21 standards, policies, and orders that establish requirements for DOE-authorized nuclear facilities. The new orders remove or weaken numerous requirements for safety, health, and environmental impact mitigation and reporting, including for:

- **Accident investigations**. Requires an official investigation of a nuclear accident if it results in employee radiation exposure exceeding occupational dose limits by a factor of four or more—doubling the radiation exposures that would have previously required an accident investigation.[12]
- **Leak prevention for highly radioactive nuclear waste**. Removes detailed requirements to develop a structural integrity program to prevent leaks to storage tanks for high-level waste.[13]

[9] DOE NEPA Implementing Procedures, February 2, 2026, B1.14, "Refueling of nuclear reactors," B7.2, "Import and export of special nuclear or isotopic materials."
[10] DOE NEPA Implementing Procedures, February 2, 2026, B3.6, "Small-scale research and development, laboratory operations, and pilot projects."
[11] DOE NEPA Implementing Procedures, February 2, 2026, B5, "Categorical Exclusions Applicable to Conservation, Fossil, and Renewable Energy Activities."
[12] NE Order 225.1, Appendix A, 2.b.1.a.; compared to former DOE Order 225.1B, Appendix A, 2.b.1.a.
[13] NE Order 435.1, 5.h.2.; compared to former DOE Manual 435.1-1, Chapter II, R.2.

- **Characterization of highly radioactive waste**. Removes detailed requirements on high-level waste characterization—a critical step to assess the volume, physical conditions, potential hazards, and other key attributes necessary for safe waste management.[14]
- **Monitoring of highly radioactive waste facilities for potential system failures**. Removes detailed requirements on how to conduct monitoring of high-level waste facilities for changes that could indicate system failures or lead to accidents.[15]
- **Reporting on potential work-related illnesses**. Removes requirements to notify DOE officials of suspected excess illnesses that may require epidemiologic investigations to determine whether the illnesses are work-related.[16]
- **Drinking water protection**. No longer requires implementing practices to ensure that DOE sites provide the same level of radiation protection for persons consuming water through a DOE-operated drinking water system as would be required for a public water system.[17]
- **Ground water protection**. No longer requires protection of ground water from radiological contamination or the implementation of strategies and monitoring methodologies to control radiological contamination.[18]
- **Radionuclide discharges into sewers**. Removes strict limitations on discharging liquids containing radionuclides into non-Federally owned sanitary sewers and removes maximum allowable annual discharges into sanitary sewers.[19]
- **Animal and plant life protection**. No longer requires implementing practices to ensure that biota are protected, including when actions taken to protect humans from radiation are not adequate to protect biota.[20]
- **Monitoring for weather patterns and radiation exposure pathways**. No longer requires estimating dispersal patterns from releases of radioactive material or characterizing exposure pathways to members of the public as part of environmental monitoring.[21]
- **Monitoring to detect residual radioactive material before a site is released from DOE control**. Removes detailed requirements on instrument maintenance, calibration, and testing for radiological monitoring required before a property is released from DOE's radiological control.[22]
- **Notification to Federal, State, Tribal, or local governments on allowable residual radioactive material on a site before it is released from DOE control**. No longer requires written notification to Federal, State, or local regulatory agencies or Tribal governments of the authorized limits on quantity of residual radioactive materials for a property to be released from DOE's radiological control.[23]

---

[14] NE Order 435.1, 5.i. and Attachment 1, 6.a.; compared to former DOE Manual 435.1-1, Chapter II, M.
[15] NE Order 435.1, 5.u. and Attachment 1, 6.b.; compared to former DOE Manual 435.1-1, Chapter II, U.
[16] NE Order 231.1, 5.a.; compared to former DOE Order 231.1B, 5.a.
[17] NE Order 458.1A, 4.h.; compared to former DOE Order 458.1, 4.i.1.
[18] NE Order 458.1A, 4.g.; compared to former DOE Order 458.1, 4.i.2.
[19] NE Order 458.1A, 4.f.2.a.; compared to former DOE Order 458.1, 4.g.8.a.
[20] NE Order 458.1A, 4.i.; compared to former DOE Order 458.1, 4.j.
[21] NE Order 458.1A, 4.d.8.; compared to former DOE Order 458.1, 4.e.9.
[22] NE Order 458.1A, 4.j.5.b.; compared to former DOE Order 458.1, 4.k.8.b.
[23] NE Order 458.1A, 4.j.4.c.; compared to former DOE Order 458.1, 4.k.6.c.

- **Independent verification before a site is released from DOE control**. No longer requires independent verification of radiological data to verify compliance before the release of property from DOE's radiological control.[24]
- **Reporting on environmental occurrences and performance indicators**. No longer requires that annual, publicly available environmental reporting include environmental occurrences, confirmation of environmental compliance, and performance indicators that reflect the size and extent of programs at a particular site.[25]

This list is far from exhaustive of the major changes that DOE has made. The changes are alarming in their own right and demand additional scrutiny to assess the integrity of DOE's authorization process. They also further undermine DOE's case that environmental reviews elsewhere in the DOE authorization process sufficiently address environmental impacts of an advanced reactor project to allow for a CE.

V. Conclusion

Advanced reactors have tremendous potential to bring safer and more efficient nuclear energy to serve the American people. The proliferation of advanced reactor designs shows the opportunity that American innovation can unlock. To fully realize this opportunity, each novel design should be sufficiently assessed to ensure delivery of promised safety enhancements as well as environmental and public health protections. Cutting corners in the near term for a small handful of nascent technologies will not help the nuclear industry succeed in the long term. By creating such a sweeping CE for advanced reactors and weakening its nuclear directives, DOE is eroding, not enabling, the basis for American nuclear leadership. DOE must revise its approach to ensure adequate safety, health, and environmental reviews for advanced reactors, both in its NEPA process and in its internal directives.

Sincerely,

Sheldon Whitehouse
United States Senator
Ranking Member
Committee on Environment
and Public Works

[24] NE Order 458.1A, 4.j.6.; compared to former DOE Order 458.1, 4.k.9.
[25] NE Order 231.1, Attachment 2; compared to former DOE Order 231.1B, Attachment 2