



August 10, 2026

U.S. Nuclear Regulatory Commission
11555 Rockville Pike,
Rockville, Maryland 20852

Subject: Public Comment on NRC’s Modernizing Materials Licensing (Docket ID NRC-2025-1370)

Dear NRC Staff,

The Nuclear Innovation Alliance (NIA) is an independent, non-profit, non-partisan “think-and-do” tank whose mission is to help create the conditions for success for new nuclear energy so it can play a major role as an energy security and climate solution. Through policy analysis, research, outreach, and education, NIA is catalyzing the next era of nuclear energy. We focus on regulatory modernization, federal and state policy, and enabling private investment to support new reactor commercialization while meeting national environmental and energy security goals.

NIA appreciates the opportunity to comment on the proposed Modernizing Materials Licensing rule published on June 24, 2026. The proposal would make significant changes, and NIA commends the staff on the rulemaking effort. NIA generally is supportive of this proposed rule, and our comments specifically address the NRC request for comment on the definition of construction, in addition to a section on the DOE Pilot Fuel Line transition. Additionally, NIA notes that Part 51 is referenced throughout this proposed rule. Part 51 is subject to change from the July 7th proposed rule, Implementation of the National Environmental Policy Act. NIA urges NRC to coordinate the changes in both rules to ensure regulatory certainty and durability.

Construction

The proposed rule states that NRC is not currently proposing to change the definition of “construction” in Part 70 but is seeking input on whether to expand the definition in the final rule. NIA believes it is important to understand what the current definition allows and what would be needed to fully achieve the flexibility of this rulemaking.

Currently the NRC defines activities for construction as “the installation of foundations, or in-place assembly, erection, fabrication, or testing for any structure, system, or component of a

facility or activity subject to the regulations in this part that are related to radiological safety or security.”¹ Furthermore Part 70 defines what construction does *not* include:

- (1) Changes for temporary use of the land for public recreational purposes;
- (2) Site exploration, including necessary borings to determine foundation conditions or other preconstruction monitoring to establish background information related to the suitability of the site, the environmental impacts of construction or operation, or the protection of environmental values;
- (3) Preparation of the site for construction of the facility, including clearing of the site, grading, installation of drainage, erosion and other environmental mitigation measures, and construction of temporary roads and borrow areas;
- (4) Erection of fences and other access control measures that are not related to the safe use of, or security of, radiological materials subject to this part;
- (5) Excavation;
- (6) Erection of support buildings (e.g., construction equipment storage sheds, warehouse and shop facilities, utilities, concrete mixing plants, docking and unloading facilities, and office buildings) for use in connection with the construction of the facility;
- (7) Building of service facilities (e.g., paved roads, parking lots, railroad spurs, exterior utility and lighting systems, potable water systems, sanitary sewerage treatment facilities, and transmission lines);
- (8) Procurement or fabrication of components or portions of the proposed facility occurring at other than the final, in-place location at the facility; or
- (9) Taking any other action that has no reasonable nexus to:
 - (i) Radiological health and safety, or
 - (ii) Common defense and security.

This definition is generally consistent with Part 50 as well. The §70.4 definition is adequate and the nexus to items relied on for safety (IROFS) and security can be readily inferred. An applicant can conclude that non-IROFS structures, systems, or components (SSCs) fit into the overall category of not “related to radiological safety or security,” even absent explicit citation in the list of items not constituting construction. However, NIA has identified several benefits for adjusting the definition of construction.

1. Clarification of non-IROFS structures

¹ <https://www.ecfr.gov/current/title-10/chapter-I/part-70>

One of the proposed changes in the rule impacts the safety classification of structures whose sole function is to maintain structural stability (with no confinement or containment function). The net result of this change would be that the structure housing the process being licensed is not an IROFS if its safety function is limited to protecting against natural phenomena – that is, the structure does not fail in a way that disrupts the IROFS within it. (Under this change, the structure’s function would still be maintained under the licensee's management measures program). This is an important and useful change but is significant enough that it warrants clarification as to whether that structure can be built prior to receipt of the license, and updating the definition of construction is one way to provide this clarification.

2. New §50.10

A change to § 50.10 has been proposed in a parallel proposed rulemaking, *Modernizing Reactor Licensing, Safety Oversight, and Siting Practices*, to say:

(1) Activities constituting construction are the driving of piles, subsurface preparation, placement of backfill, concrete, or permanent retaining walls within an excavation, installation of foundations, or in-place assembly, erection, fabrication, or testing, which may impact the required functions of:

(i) Safety-related structures, systems, or components (SSCs) of a facility, as defined in § 50.2;

(ii) SSCs that perform safety-significant functions; and

(iii) SSCs necessary to comply with part 73 of this chapter.

(2) With respect to production or utilization facilities, other than testing facilities and nuclear power plants, required to be licensed under section 104a. or section 104c. of the Act, construction does not include the erection of buildings which will be used for activities other than operation of a facility and which may also be used to house a facility (e.g., the construction of a college laboratory building with space for installation of a training reactor).

(3) Any activities that are determined to be outside the scope of those defined in § 50.10(a)(1) and that are undertaken by an applicant or on its behalf are entirely at the risk of the applicant and has no bearing on the issuance of a license with respect to the requirements of the Act, and rules, regulations, or orders issued under the Act.

Continuing a close alignment of the definition across different Parts would allow for better clarity. The adjustments in 50.10 can be implemented into Part 70 as well. As noted the current definition will allow applicants to push for non-IROFS to meet the intent; however, a clearer definition will increase efficiency and standard practices. With respect to Part 70, NIA recommends that *Construction* be defined as:

The driving of piles, subsurface preparation, placement of backfill, concrete, or permanent retaining walls within an excavation, installation of foundations, or in-place assembly, erection, fabrication, or testing, which may impact the required functions of:

- i. Items relied on for safety (IROFS), as defined in § 70.4; and
- ii. SSCs necessary to comply with part 73 of this chapter.

An additional conforming change would also be needed to the proposed language in § 70.23(a)(7), deleting the statement, “Commencement of construction as defined in § 70.4 of this part may include non-construction activities if the activity has a reasonable nexus to radiological safety and security.” This statement is not consistent with a straightforward and predictable definition of “construction.”

The prior (existing) list of activities not constituting construction have proven useful in the past, and NIA recommends it be retained in the appropriate guidance, perhaps accompanying discussion of the acceptability of erecting non-IROFS structures discussed in item 1 above.

Quality Assurance (QA)

The proposed rule would mandate a 10 CFR 50 Appendix B QA program for spent fuel reprocessing facilities. NRC "Issue 2" in the request for comment specifically asks whether a graded, technology-neutral QA approach should replace blanket Appendix B requirements. This proposed mandate is inconsistent with other recent agency efforts to improve the efficiency of QA program requirements by enabling flexibility in selection of applicable standards. A more flexible approach is especially important where – as is likely to be the case with new fuel recycling developers – the supplier base is unlikely to have an existing Appendix-B-based set of programs. Mandating this specificity for recycling (and plutonium) facilities is unnecessary because the long-standing QA programs for other materials facilities are adequate. NIA recommends that the flexibility contemplated for other facilities be applied in this case; and that the footnotes applicable to plutonium facilities be deleted for the same reasons.

DOE Pilot Program

The proposed rule would establish a streamlined review process for applications for Part 70 materials facility licenses that were previously authorized under the Department of Energy’s Reactor Pilot Program. NIA previously commented on the NRC’s Reviews of Reactor Designs Previously Authorized by U.S. Department of Energy or Department of War proposed rule², which outlined similar requirements as this proposed rule. We emphasized the importance of a pathway from DOE and DoD that preserves, and visibly reinforces, the NRC’s independence, credibility, and predictability. The Modernizing Materials proposed rulemaking states that

² NIA’s public comment <https://nuclearinnovationalliance.org/index.php/public-comment-nrc-reviews-reactor-designs-previously-authorized-us-department-energy-or-department>

commercial licensing of these fuel lines in the future could be streamlined by “focusing the potential future NRC review on parts of the application where aspects of the DOE authorization do not satisfy NRC regulations and statutory provisions as they apply to commercial operations.” The current rule package does not contain guidance specifically for how NRC will evaluate DOE’s pilot program fuel lines. Additionally, in an NRC public meeting on the proposed rule (July 15th), the NRC stated that they are working with DOE to create a crosswalk from DOE to NRC. NRC noted that the crosswalk is owned by DOE and thus they may not be able to publish it if DOE does not publish it. This crosswalk should be a public document on which stakeholders can provide input. NIA recommends that the NRC make this crosswalk publicly available through any means within its authority and consistent with applicable NRC processes and interagency agreements with DOE. If publication of the DOE-owned crosswalk is not within the NRC’s authority, then NIA recommends that NRC publish implementation guidance on how exactly the NRC will evaluate previously authorized DOE fuel lines and allow stakeholders to provide input before finalization.

NRC also adds the definition for pilot fuel line as “a facility authorized by the Department of Energy, at the time of submittal of an application under this part, to produce nuclear fuel for non-commercial purposes for qualified test reactors under the Department's Reactor Pilot Program.” NIA notes that, in addition to the Reactor Pilot Program, DOE established the Launch Pad program which provides a similar function and has the same goals as the Reactor Pilot Program. Additionally, DOE could establish new programs in the future that, like the Launch Pad program, have similar functions to the Pilot Program. To ensure this rule is durable, DOE’s definition for a pilot fuel line should be revised from referencing the “Department’s Reactor Pilot Program” to “Department’s various programs that utilize DOE authorization” at the end to fully encompass all existing and future programs.

Additionally, NRC staff previously have stated that some elements required for commercialization, such as decommissioning, full lifecycle considerations, and NEPA, may not be fully addressed in DOE pilot programs generally. NIA recommends providing clarity in guidance to improve predictability for applicants and reduce the risk of inconsistent applications and reviews across projects.

Finally, it is important to note that the NRC's discussion in this proposed rule focuses on the Reactor Pilot Program. However, the *Reactor* Pilot Program and the *Fuel Line* Pilot Program are separate DOE programs.^{3,4} Despite having the same general goals, they serve different industry participants (i.e., reactor developers vs. fuel developers). This proposed rule does not clearly distinguish between these two programs, nor does it make clear whether the Fuel Line Pilot

³ U.S. Department of Energy Reactor Pilot Program (<https://www.energy.gov/ne/us-department-energy-reactor-pilot-program>)

⁴ U.S. Department of Energy Fuel Line Pilot Program (<https://www.energy.gov/ne/energy-department-fuel-line-pilot-program>)

Program is being treated as a sub-program of the Reactor Pilot Program. As a result, references to the Reactor Pilot Program in this context are potentially confusing when the subject appears to be the Fuel Line Pilot Program. NIA recommends that the NRC work with DOE to clarify the relationship between these programs, their respective objectives, and the appropriate terminology used in the regulations to ensure stakeholders have a clear understanding of the relevant program being discussed.

Transparency and Public Trust

As stated in NIA's public comment on NRC's Reviews of Reactor Designs Previously Authorized by U.S. Department of Energy or Department of War proposed rule:

"NIA supports the NRC's longstanding commitment to transparency and appreciates the Commission's statements that this pathway will not reduce the level of public visibility into licensing decisions. NRC staff indicated that "the public shouldn't see any difference in terms of level of transparency" and that information will continue to be collected and shared as in other licensing reviews. To reinforce this commitment, NIA recommends clarifying that Final Safety Analysis Reports will include clear, traceable explanations of how prior DOE or DOW/DOD work satisfies NRC requirements, rather than relying on high-level or summary statements. Maintaining a robust and accessible public record will be critical to sustaining public confidence and supporting stakeholder participation."

As with the reactor pilots, it is imperative that any fuel line pilot transition from DOE to NRC be transparent. It is concerning that the crosswalk under development by DOE may not be a public document. NRC historically has made guidance documents public and this should be no exception.

In summary, NIA urges the staff to consider revising the definition of construction, produce guidance on DOE fuel line transition to NRC, and maintain public trust and transparency. NIA appreciates the Commission's leadership on this issue and the opportunity to provide input. If you have any questions, please contact Miranda McGuire at mmcguire@nuclearinnovationalliance.org.

Sincerely,

Judi Greenwald
President & CEO
Nuclear Innovation Alliance