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General Comment

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Attachments

2022-08-30_NRDC Comment on Draft Proposed Decommissioning Rule

Natural Resources Defense Council, Inc. (NRDC)
Comments on: Regulatory Improvements for Production
and Utilization Facilities Transitioning to
Decommissioning
Proposed Rule
Docket ID NRC-2015-0070



August 30, 2022

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NRDC

August 30, 2022

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RE: Regulatory Improvements for Production and Utilization Facilities Transitioning to Decommissioning, Proposed Rule, Docket ID NRC-2015-0070

Dear Nuclear Regulatory Commission Staff:

The Natural Resources Defense Council (“NRDC”) writes today to comment on the Nuclear Regulatory Commission (“NRC”) *Regulatory Improvements for Production and Utilization Facilities Transitioning to Decommissioning, Proposed Rule*, Docket ID NRC-2015-0070, 87 Fed. Reg. 12254 (Mar. 3, 2022) (“Proposed Rule”).

I. Introduction & Summary of Comments

Consistent with our comments on the 2016 Advanced Notice of Proposed Rulemaking¹ and 2017 Draft Regulatory Basis,² decommissioning is an integral component of the nuclear energy lifecycle. The single largest issue facing affected communities, the industry that operated a reactor for decades, and the affected environment is the lack of clear, strong, and protective rules on how decommissioning will progress from the permanent cessation of reactor operations to final license termination. Unfortunately, the Proposed Rule does not meet this need. Rather, the Proposed Rule muddies already obscure waters and exacerbates existing violations of the Atomic Energy Act.

The Proposed Rule touches upon several key matters—such as cleanup and timing—but imposes little in the way of meaningful requirements on the industry that has operated nuclear reactors for decades. Communities and states that have hosted those nuclear power operations will have no recourse to improve or even affect

¹ NRDC Comments on: Regulatory Improvements for Decommissioning Power Reactors, Advance Notice Of Proposed Rulemaking, Request For Comment (March 18, 2016) (“ANOPR Comment”), <https://www.nrc.gov/docs/ML1608/ML16085A311.pdf>.

² NRDC Comments on: Regulatory Improvements for Power Reactors Transitioning to Decommissioning Draft Regulatory Basis Document (June 13, 2017) (“Draft Regulatory Basis Comment”), <https://www.nrdc.org/sites/default/files/comments-power-reactors-decommissioning-20170613.pdf>.

controversial or problematic decisions that can last for years on end. The prime illustration of this is the NRC's acknowledgement of the receipt of a decommissioning plan (PSDAR) but the requirement for *literally* nothing else associated with the decommissioning plan or the process. Industry alone sets time limits for doing the decommissioning work out to a potential 60 years, allowing for jettisoning the entire skilled workforce; there is a relaxation of emergency preparedness and security while still risky elements remain; and the management of the decommissioning trust funds and offsite and onsite financial protection requirements and indemnity agreements are weakened. Indeed, in service of industry "flexibility" the Proposed Rule imposes no burdens. The important needs of states, communities, workforces, and the necessity to leave behind a clean environment are, by contrast, neglected.

The development of the current decommissioning rulemaking began in 2014. With the rancor and litigation in the 1990s over the first decommissioning reactors and the dozens of aging reactors nearing the close of operations, it was wise for the NRC to commence this process. Unfortunately, what could have been an opportunity to put right an evolving mess is likely to exacerbate the rancor and contentiousness associated with decommissioning. Over decades, the NRC has concocted a system of exemptions and *ad hoc* rules that have been strapped onto regulations that focus on the construction and operation of reactors, the outcome of which is not only confusing but violates multiple clear statutory mandates.

Rather than stepping back and creating a lawful and straightforward regulatory process specific to decommissioning, with clear requirements and accountability such as the one we describe in our comments below, the Proposed Rule functionally codifies the existing framework to allow industry to set the terms of how decommissioning will progress, all to the detriment of states, communities, workforces, and the environment. Whatever rule is adopted will likely be in place for decades and will affect the cleanup, communities, and associated workforces of more than sixty sites across the country.³ Rather than codify the current rickety and legally deficient system, the NRC should withdraw this Proposed Rule and fashion a straightforward decommissioning process with appropriate protections for communities, workers, and the environment.

II. NRDC Statement of Interest

NRDC is a national non-profit environmental organization with over 2.4 million combined members and activists. NRDC's activities include maintaining and enhancing

³ Since our last comments on this matter in June 2017, seven more reactors have permanently shut down and begun decommissioning and two have plans to shut down in the next few years and transition to decommissioning:

In 2018 – Oyster Creek Nuclear Generating Station

In 2019 – Three Mile Island Unit 1, Pilgrim

In 2020 – the Duane Arnold Energy Center; Indian Point Unit 2

In 2021 – Indian Point Unit 3

In 2022 – Palisades

To be shut down – Diablo Canyon Units 1 and 2.

environmental quality and monitoring federal agency actions to ensure that federal statutes enacted to protect human health and the environment are fully and properly implemented. Since 1970, NRDC has sought to improve the environmental, health, and safety conditions at the civil nuclear facilities licensed by the NRC and we will continue to do so.

III. Comments on the Proposed Rule

A. Decommissioning Plan, Hearing Rights, and Environmental Review

The Commissioners raised questions for this rulemaking about the “advisability” of requiring NRC approval of decommissioning plans and the “appropriate role of State and local governments and non-governmental stakeholders in the decommissioning process.” 87 Fed. Reg. at 12,254. We agree with Chairman Hanson that the NRC “can do more to engender trust in [its] processes” than the Proposed Rule. Chairman Hanson’s Comments on “SECY-18-0055: Proposed Rule: Regulatory Improvements for Production and Utilization Facilities Transitioning to Decommissioning” at 1 (ML21230A315) (Aug. 10, 2021) (hereinafter “Hanson”).

NRDC respectfully submits that the only way to restore public trust in the NRC’s decommissioning process is by requiring formal decommissioning plans that require explicit and final NRC approval, Atomic Energy Act Section 189(a) public and state hearing and intervention rights, and National Environmental Policy Act (“NEPA”) site-specific supplements. Moreover, if the NRC fails to make these changes, the agency’s regulations will be in violation of the Atomic Energy Act and NEPA.

- 1. The NRC should act like a regulator and recognize the advantages of public participation.*

We reiterate the points made previously in our ANOPR Comment and Draft Regulatory Basis Comment. The Proposed Rule would inappropriately double down on the current process of essentially no role or authority in decommissioning for state and local governments, citizens, or even the regulating agency itself, the NRC; all major decommissioning decisions remain in the hands of industry.

The Proposed Rule maintains the existing posture of the Post-Shutdown Decommissioning Activities Report (PSDAR) even though it has been an inadequate process and a source of needless and contentious disputes. *See* Draft Regulatory Basis Comment at 10-15. We agree with Commissioner Baran that:

Besides leaving NRC with no real decisionmaking role with respect to decommissioning activities on the site, the lack of agency approval of the PSDAR has two significant consequences. First, no National Environmental Policy Act (NEPA) environmental review is required before decommissioning activities commence. Second, there is no opportunity for

stakeholders to challenge the activities outlined in the PSDAR in an agency adjudicatory hearing.

Commissioner Baran's Comments on SECY-18-0055, "Proposed Rule: Regulatory Improvements for Production and Utilization Facilities Transitioning to Decommissioning" at 4 (ML21230A313) (Aug. 9, 2021) (hereinafter "Baran"). Rather than set in stone a process that will engender controversy for decades at the dozens of sites around the country that will decommission reactors in the years ahead, NRDC supports Commissioner Baran's outline of a formal decommissioning plan that will provide a complete roadmap for both the state and affected community to follow in such a sizable undertaking and attach hearing rights and a NEPA review.

Requiring a formal decommissioning plan would reestablish the NRC as the regulator Congress intended the agency to be. The Atomic Energy Act directs the NRC to focus on ensuring health and safety in the development of nuclear technology. This direction is absent from the Proposed Rule, which instead focuses on cost, efficiency, and resource saving. These are not the NRC's purview. Part of the purpose of the Atomic Energy Act is to create "[a] program to *encourage widespread participation* in the development and utilization of atomic energy for peaceful purposes *to the maximum extent consistent with the common defense and security and with the health and safety of the public.*" 42 U.S.C. 2013 (emphasis added). The decommissioning process should reflect that purpose.

As it is, the NRC is "an international outlier in not approving a decommissioning plan." Baran at 5. The NRC differs from domestic norms as well. Decommissioning heavy industrial activity in the United States often requires agency approval of formal decommissioning plans. For example, to decommission a hazardous waste site, a licensee submits a plan for approval to the EPA.⁴ To decommission offshore oil and gas operations, an operator goes through an approval process (including an associated NEPA process) with the Bureau of Safety and Environmental Enforcement.⁵ By contrast, the NRC proposes allowing the decommissioning of radioactively contaminated facilities that have operated for decades to go forward without meaningful oversight. We urge the Commission to change course.

And that is all requiring a formal decommissioning plan would be—a course correction. The 1988 decommissioning rule⁶ required the NRC to approve a

⁴ See EPA, *Closure and Post-Closure Care Requirements for Hazardous Waste Treatment, Storage and Disposal Facilities*, <https://www.epa.gov/hwpermitting/closure-and-post-closure-care-requirements-hazardous-waste-treatment-storage-and-disposal>.

⁵ See Bureau of Safety and Environmental Enforcement, *What is decommissioning of offshore platforms?* <https://www.bsee.gov/what-is-decommissioning-of-offshore-platforms#:~:text=Decommissioning%20is%20the%20process%20of,to%20its%20pre%20lease%20condition>.

⁶ Final Rule, General Requirements for Decommissioning Nuclear Facilities, 53 Fed. Reg. 24,018 (June 27, 1988).

decommissioning plan, but this was altered less than a decade later. As Chairman Hanson states, “the current process was implemented by the Commission in the 1996 rule after determining that decommissioning activities do not pose the same safety concerns as an operating reactor.” Hanson at 4 (discussing the 1996 decommissioning rule, Final Rule, Decommissioning of Nuclear Power Reactors, 61 Fed. Reg. 39,278 (July 29, 1996)). First, while we concur with the basic proposition that there will be descending levels of risk over time (*see infra* at 6), the risk of a radiological release from decommissioning operations is still substantial and worthy of community, worker, and environmental protection.⁷ Such risk is not only a function of whether the reactor is generating electricity or not, but also a function of the existing radioactive sources and contamination on site, facility maintenance, accident mitigation measures, and security. Establishing a graded approach with levels of decommissioning as safety concerns shift with time is fine, but there is no excuse essentially to stop regulating entirely. Just because low-level waste poses less radioactive source term risk than that posed by spent nuclear fuel rods has never meant that the NRC entirely leaves the management and disposal of low-level waste to licensees. Simply put, the 1996 rule swung too far.

Requiring a decommissioning plan with hearing rights attached would create a smoother and more transparent process that the public could trust. Research has found that hearing processes like those required by NEPA can “save” time by decreasing public opposition and requiring consideration of alternatives before investment of resources.⁸ As we made clear in our previous comments, the PSDAR with its lack of review process has been inadequate and a source of needless and contentious disputes.⁹ We are confident that NRC Staff and the Commission are cognizant of this after several years of conflicts over decommissioning in Massachusetts, Vermont, and New York. To decrease the intensity and delay of disputes, the NRC should require a formal decommissioning plan with hearing rights attached.

In the last year, the NRC underwent an environmental justice assessment during which the public repeatedly expressed frustration that NRC regularly offers meetings and comment opportunities with no force behind them. The Proposed Rule is the first major rulemaking since the environmental justice assessment, and it appears the NRC continues to ignore what it should have learned in hosting that process.

⁷ See Jungmin Kang, Bemnet Alemayehu, Matthew McKinzie and Michael Schoeppner, *An Analysis of a Hypothetical Release of Cesium-137 from a Spent Fuel Pool Fire at Kori-3 in South Korea*, Transactions of the American Nuclear Society, Vol. 117 (Oct. 29-Nov. 2, 2017), <https://sgs.princeton.edu/sites/default/files/2020-12/kang-2017.pdf>.

⁸ Congressional Review Service, *The Role of the Environmental Review Process in Federally Funded Highway Projects: Background and Issues for Congress*, at 4 (Apr. 11, 2012) <https://crsreports.congress.gov/product/pdf/R/R42479>. See also, https://dc.law.utah.edu/cgi/viewcontent.cgi?article=1008&context=stegner_pubs.

⁹ See Comment on Draft Regulatory Basis.

As we and others expressed in October 2021 comments on the environmental justice assessment,¹⁰ public comments and meetings are not sufficient; the agency can simply ignore comments because there is no mechanism by which the public can hold the agency accountable to them. “Only in a licensing proceeding does the applicant or the NRC Staff bear the burden of proving the adequacy of a license application to satisfy those statutes. Only in an NRC adjudicatory hearing is a license application subject to the rigors of the adversarial hearing process as a matter of right. And only in an NRC licensing proceeding can the ultimate decision be appealed to the U.S. Court of Appeals, where the NRC must demonstrate it has satisfied statutory requirements for protection of public health and safety, security and the environment.”¹¹ The decommissioning process with its “rubber stamped” PSDAR is inadequate. If the NRC wishes to live up to the promises expressed and implied in the environmental justice assessment, it must amend the Proposed Rule to require a formal decommissioning plan with hearing rights attached.

Moreover, requiring a formal decommissioning plan with hearing rights attached could markedly improve the safety of decommissioning activities and improve environmental quality at sites. Commissioner Baran rightly explained that “[c]ollecting a PSDAR without substantively assessing its content does next to nothing to protect public health and safety. And taking public comment on the PSDAR is a ‘hollow gesture’ when NRC does not make a determination on the adequacy of the report.” Baran at 4. Public participation over and over has been shown to be beneficial:

- In 1974, while still part of the Atomic Energy Commission, members of the former Appeal Board observed: “Public participation in licensing proceedings not only can provide valuable assistance to the adjudicatory process, but on frequent occasions demonstrably has done so. It does no disservice to the diligence of either applicants generally or the regulatory staff to note that many of the substantial safety and environmental issues which have received the scrutiny of licensing boards and appeal boards were raised in the first instance by an intervenor.” *Gulf States Utility Corp.* (River Bend Units 1 and 2), ALAB-183, 7 AEC 222, 227-28 (1974).
- A former chief of the Atomic Safety and Licensing Board, B. Paul Cotter, Jr., outlined the value of public participation in 1981: “(1) Staff and applicant reports subject to public examination are performed with greater care; (2) preparation for public examination of issues frequently creates a new perspective and causes the parties to reexamine or rethink some or all of the questions presented; (3) the quality of staff judgments is improved by a hearing process which requires experts to state their views in writing and then permits oral examination in detail

¹⁰ See NRDC et al., Comments on Systematic Assessment for How the NRC Addresses Environmental Justice in Its Programs, Policies, and Activities, Docket ID NRC-2021-0137 (Oct. 29, 2021), <https://www.nrdc.org/sites/default/files/comments-nrc-ej-assessment-20211029.pdf>.

¹¹ *Id.* (citing Letter from Diane Curran to U.S. NRC, Comments on NRC Public Participation Process (Feb. 26, 2013) (ML13057A975)).

. . . and (4) Staff work benefits from [prior] hearings and Board decisions on the almost limitless number of technical judgments that must be made in any given licensing application.” B. Paul Cotter Jr., *Memorandum to NRC Commissioner Ahearne on the NRC Hearing Process* at 8 (May 1, 1981).

- In 2008, Judge Michael Farrar, an NRC Judge for over thirty years, reaffirmed the valuable contribution public participation can make to the licensing process: “The Petitioners were instrumental in focusing the Board’s attention on the troubling matters discussed above. That they did so is a testament to the contribution that they, and others like them, can make to a proceeding.” *Shaw Areva Mox Services* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), LB-08-11, 67 NRC 460, 500 (June 27, 2008) (Farrar, J., concurring).
- As former Commissioner Bradford has explained: “The potential weakness of most regulatory processes in banking, housing, coal mine safety and oil drilling, as well as nuclear regulation, is the extent to which these processes rely almost exclusively on information provided by the regulated entities. If regulators compound this weakness by treating other potential sources of information, such as citizens’ groups, whistleblowers, State governments, with hostility, then they are asking for trouble.” Senate Subcommittee on Clean Air and Nuclear Safety, Oversight Hearing: Nuclear Regulatory Commission, Hearing 111-1236 (May 5, 2010).

Simply put, it is good policy for the NRC to require approval of a formal decommissioning plan, allowance for a formal hearing process if intervention requests are filed, and commensurate NEPA review.

2. The current decommissioning regulations and the Proposed Rule violate the Atomic Energy Act.

The NRC must reassess how it regulates decommissioning nuclear reactors because the current regulations violate the Atomic Energy Act, and the Proposed Rule would double down on this departure from the statutory requirements. The NRC should make major changes to create a clear, organized, and legally defensible regulatory process for decommissioning. As one possible solution to the statutory violations, we propose that the decommissioning rules could mirror the NRC’s operating license renewal regulations—which would include a licensing proceeding in which the NRC reviews and ultimately must approve a formal decommissioning plan, Atomic Energy Act Section 189(a) hearing rights attach, and a supplemental NEPA analysis fleshes out the site-specific environmental impacts.¹²

¹² We note that Citizens Awareness Network and Nuclear Information and Resource Service have provided an alternative means that the NRC could amend its decommissioning regulations to no longer violate the Atomic Energy Act. See Comments by Citizens Awareness Network and Nuclear Information and Resource Service on U.S. Nuclear Regulatory Commission Proposed Rule, Regulatory Improvements for Production and Utilization Facilities Transitioning to Decommissioning, 87 Fed. Reg. 12,254 (March 3, 2022) Docket No. NRC-2015-0070 (Aug. 30, 2022). We submit that—unlike the Proposed Rule—both

- The Atomic Energy Act Section 103 limits production or utilization facility licenses to last no more than 40 years but allows license renewal upon expiration.

The NRC licenses nuclear reactors as utilization facilities with the statutory authority from Atomic Energy Act Section 103.¹³ The Atomic Energy Act requires that a Section 103 license for a utilization facility include a specific date when the license expires, no more than forty years from when the license is issued. 42 U.S.C. § 2133(c). Section 103 does permit a license to “be renewed upon the expiration of such period.” *Id.* The NRC regulations on license renewal adhere to Section 103’s time limits. 10 C.F.R. § 54.31 (“A renewed license will be issued for a fixed period of time” and the “term of any renewed license may not exceed 40 years.”¹⁴).

This time limit for a utilization facility license is not only for operation of the facility but includes mere possession as well and thus includes a reactor undergoing decommissioning after decades of operation. *Id.* (“The Commission is authorized to issue licenses to . . . possess, use, . . . utilization or production facilities for industrial or commercial purposes.”). This is evident in the licenses NRC issues. The NRC will issue an operating license “pursuant to Section 103 . . . to possess, use, and operate the facility.” *See, e.g.* Three Mile Island Nuclear Station, Unit 2, Facility Operating License, License DPR-73 (Feb. 8, 1978) (ML19206A758). After the reactor has permanently ceased operations (after whatever number of years), the NRC will issue a license amendment “pursuant to Section 103 . . . to possess but not operate” the facility. *See, e.g.* Three Mile Island Nuclear Station, Unit 2, Possession Only License, License DPR-73, Amendment No. 45 (Sept. 14, 1993) (ML20029E535).

- The current decommissioning regulations violate Atomic Energy Act Section 103 by permitting what are explicitly time-limited licenses to continue in effect during decommissioning without undergoing a statutorily required license proceeding.

To be even more explicit, contrary to the statutory requirements in Atomic Energy Act Section 103, current NRC regulations permit utilization facility licenses to

their suggestion and ours would be two distinct means for the NRC to regulate decommissioning in accordance with the Atomic Energy Act.

¹³ The Atomic Energy Act gives the NRC the authority to license nuclear reactors as utilization facilities under Sections 103 and 104b. 42 U.S.C. § 2131. While Sections 103 and 104b have distinct licensing requirements, the NRC has promulgated regulations such that “[t]he licensing procedures under both § 103 or § 104(b) are essentially the same.” *Am. Pub. Power Ass’n v. NRC*, 990 F.2d 1309, 1311 (D.C. Cir. 1993) (citing *Power Reactor Dev. Co. v. International Union of Elec. Workers*, 367 U.S. 396, 405 (1961)). The NRC should maintain this symmetry for decommissioning.

¹⁴ Note, while the total term of the renewed license may not exceed 40 years, the NRC issues renewed licenses for only an additional 20 years beyond the original license expiration date because the period of the renewed license “is the sum of the additional amount of time beyond the expiration of the operating license or combined license (not to exceed 20 years) that is requested in a renewal application plus the remaining number of years on the operating license or combined license currently in effect.” 10 C.F.R. § 54.31.

continue essentially indefinitely during decommissioning. While the regulations limit *decommissioning* to 60 years—we note, in excess of the Act’s 40-year license limit—the regulations do not provide any limit to the license itself; the facility’s license merely “continues in effect” during decommissioning “until the Commission notifies the licensee in writing that the license is terminated.”¹⁵ 10 C.F.R. § 50.51(b) and 10 C.F.R. § 51.109; *see also*, 87 Fed. Reg. at 12,297 – 12,299.

- The Proposed Rule doubles down on the departure from the express terms of the statute and makes a disordered regulatory scheme worse.

For example, the Proposed Rule acknowledges that “[t]he NRC is proposing to amend its regulations related to the decommissioning of *production and utilization facilities*.” 87 Fed. Reg. at 12,254 (emphasis added). At the same time, the Proposed Rule would “establish the criteria for when a facility licensed under 10 CFR part 50 or 10 CFR part 52 no longer meets the statutory or regulatory definition of a utilization or a production facility.” 87 Fed. Reg. at 12,298. These are contradictory goals.

Further, the Proposed Rule would leave in place Part 50 and 52 licenses during decommissioning even after a facility no longer meets the definition for a production or utilization facility. *See* 87 Fed. Reg. at 12,299. But the stated purpose of Part 50 is “to provide for the licensing of production and utilization facilities,” 10 C.F.R. 50.1, and Part 52 “governs the issuance of early site permits, standard design certifications, combined licenses, standard design approvals, and manufacturing licenses for *nuclear power facilities licensed under Section 103*.” 10 C.F.R. 52.0 (emphasis added). Again, the Proposed Rule is self-contradictory and inconsistent with the larger regulatory scheme.

Finally, as a practical matter, the Proposed Rule is not straightforward as to when during decommissioning a facility no longer meets the definition for a production or utilization facility. The Proposed Rule would amend existing regulations to add that a facility licensed under part 50 or 52 “is no longer a utilization facility once the licensee modifies the facility to be incapable of making use of special nuclear material without significant facility alternation.” 87 Fed. Reg. at 12,298. Is this a case-by-case determination? Does the licensee have to inform the public—or the NRC for that matter—that it has reached this level? Does the NRC have any authority to confirm the licensee’s claim? Simply put, this definition does not clarify the decommissioning

¹⁵ It does not appear that the NRC has ever addressed in any rulemakings how a Section 103 license can “continue in effect” indefinitely without violating the Atomic Energy Act.

The NRC added the allowance to 10 C.F.R. § 50.51 in the 1996 decommissioning rule and updated § 51.109 to mirror the 1996 version of § 50.51 in 2007. 72 Fed. Reg. 49352 (Aug. 28, 2007). The original language of 10 C.F.R. § 50.51 from 1956 was titled “Duration of license renewal” and set out that “each license will be issued for a fixed period of time specified in the license but in no case to exceed 40 years from the date of issuance,” in accordance with the Atomic Energy Act. While the 1988 decommissioning rule added permission for 30.36 (byproduct material) 40.42 (source material) 70.38 (special nuclear material) to continue those licenses indefinitely, the Atomic Energy Act does not limit licenses for these materials along the same lines as Section 103, and therefore those changes do not violate the Atomic Energy Act.

process. The Proposed Rule offers no clarity on the path to decommissioning nuclear reactors.

- The NRC can look to how it regulates renewal of operating licenses for one solution to the current violation of the Atomic Energy Act.

The NRC addressed the issue of license terms when considering operating license renewals, but there the NRC came to a different—and we argue, more reasonable—conclusion. In the 1991 rulemaking on license renewals, the NRC discussed that “extended operation (i.e., operation beyond that approved in the current license) could be accomplished either through issuing a ‘renewed’ operating license or by amending the expiration date in the current license to permit operation beyond 40 years.” 56 Fed. Reg. 64,943. “After reviewing the AEA, the relevant legislative history, and the licensing regimes for other Federal agencies, . . . the Commission concludes that *extended operation of nuclear power plants licensed under section 103 of the AEA must be accomplished by issuance of renewed operating licenses.*” *Id.* (emphasis added).¹⁶ Thus, the NRC issued a final rule establishing procedures, criteria, and standards governing license renewal in 10 C.F.R. Part 54. Even if we have a number of criticisms which are not the subject of this rulemaking, these rules—which include NRC approval, hearing rights, and NEPA review—have proven functional in the many license renewal proceedings that have occurred.

We have been unable to find any explanation for why the NRC determined that Section 103 required an *operating* license to be renewed beyond 40 years but allowed a possession-only license for a reactor in decommissioning status to be extended indefinitely. And we do not believe a logical reason exists. We submit that, to comply with the Atomic Energy Act Section 103 limits to utilization facility license terms, the NRC should amend its decommissioning regulations to be in similar form to its operating license renewal regulations or, in the alternative and as we discuss next, its license amendment process. Notably, this would require a license proceeding with an application and associated plan, hearing rights, and a NEPA supplement. Amending the decommissioning regulations to mirror such transparent procedures would not only make the rules comply with statutory requirements, but it would also constitute an organized regulatory process rather than continue the current regulatory disarray. The United States Court of Appeals for the First Circuit came to a set of similar observations, and we discuss that in the next section.

3. *As a matter of law, the NRC must reassess the decommissioning regulations in light of Citizens Awareness Network v. NRC.*

In *Citizen Awareness Network, Inc. v. NRC*, 59 F.3d 284 (1st Cir. 1995), the First Circuit held that major decommissioning activity is outside of the authority granted in

¹⁶ The Commission also found that renewal of licenses under Section 104b also should be through a license renewal.

an operating license and therefore any permission to conduct such activity is a de facto license amendment requiring Atomic Energy Act Section 189(a) hearing rights. The NRC has never fully responded to this decision and now is an excellent time to conclude this task. To comply with the First Circuit's holding and the Atomic Energy Act, the NRC must amend its decommissioning regulations to require a licensing proceeding with meaningful opportunity for a hearing.

Citizen Awareness Network involved the cessation of operations and beginning of decommissioning of the Yankee Rowe Nuclear Power Station in Massachusetts. At the time, the 1988 decommissioning rule was in effect, requiring NRC approval of a decommissioning plan with hearing rights attached. The licensee, however, requested that the NRC permit certain decommissioning activities to take place before submission and approval of the decommissioning plan. The NRC issued internal staff directives to "interpret" its 1988 regulations to allow this activity. Citizen Awareness Network requested a hearing on the NRC's decision, but the Commission denied the request, leading Citizen Awareness Network to appeal to the First Circuit.

In 1995, the First Circuit reversed the Commission on multiple grounds. 59 F.3d 284. The First Circuit held that (1) the Commission had reversed its policy on decommissioning without a reasoned explanation and the new policy was therefore arbitrary and capricious, 59 F.3d at 291-92; (2) the NRC had arbitrarily and capriciously skipped over NEPA review because "it is undisputed that decommissioning is an action which, even under the Commission's new policy, requires NEPA compliance," 59 F.3d at 292-93; and (3) the Commission violated the Atomic Energy Act Section 189(a)'s hearing requirements because the authorization to allow any decommissioning activity was a de facto license amendment. 59 F.3d at 294-95.

Following this experience, the NRC purported to address the First Circuit's holdings and criticisms of the NRC's decision to eliminate the requirement for a decommissioning plan by undertaking a rulemaking. In 1996, the NRC conducted a generic decommissioning rulemaking, still functionally in effect to this day, in which the NRC rationalized that the activities involved in decommissioning were (a) no more dangerous than NRC had allowed all along during operation and (b) had been evaluated for their environmental impacts in previous environmental studies like the 1988 generic environmental impact statement for decommissioning. 61 Fed. Reg. 39,278. The NRC thus purported to address the First Circuit's first two grounds for reversal in *Citizen's Awareness Network*—lack of reasoned explanation for the policy and lack of NEPA review.

However, the NRC never adequately has addressed the third issue the First Circuit identified in *Citizens Awareness Network*—namely, that major component disassembly is outside of the authority granted in an operating license and therefore any permission to conduct such activity is a de facto license amendment requiring Atomic Energy Act Section 189(a) hearing rights.

In the 1996 decommissioning rulemaking, the NRC explained that the “final rule includes a public notice and meeting process” on the PSDAR and that the license termination plan “provides the public with hearing opportunities.” 61 Fed. Reg. at 39,285-39,286. Neither of these actually address the First Circuit’s point.

The First Circuit held that operating licenses do not consider the decommissioning of nuclear power plants, and therefore the NRC must provide Atomic Energy Act Section 189(a) hearing rights for a license amendment before a nuclear power plant can begin decommissioning. “As the Commission itself concedes, by its nature a license is presumptively an exclusive—not an inclusive—regulatory device. *See* Brief for Respondent at 5 (“Th[e] license describes the facility and the authorized activities that the operator may conduct under the license. If the holder of the licensee (sic) ... wishes to modify the facility or to take actions that are not specifically authorized under the license, the licensee may need to seek a change or ‘amendment’ to the terms of the license.”).” *Citizens Awareness Network, Inc.*, 59 F.3d at 294. “Licenses customarily delineate the types of regulated conduct in which the licensee may engage. Regulated conduct which is neither delineated, nor reasonably encompassed within delineated categories of authorized conduct, presumptively remains unlicensed.” *Id.* The First Circuit thus concluded:

The Commission elevates labels over substance. It would have us determine that a “proceeding” specifically aimed at excusing a licensee from filing a petition to amend its license is not the functional equivalent of a proceeding to allow a de facto “amendment” to its license. *As this construct would eviscerate the very procedural protections Congress envisioned in its enactment of section 189(a)*, we decline to permit the Commission to do by indirection what it is prohibited from doing directly. *See* 42 U.S.C. § 2239(a)(1)(A) (Commission must afford hearing “in any proceeding for the ... modification of rules and regulations dealing with the activities of licensees.”).

59 F.3d at 295.

The First Circuit observation remains on point and could be a guiding star for the NRC. Suggesting that allowance for a hearing opportunity at the final license termination plan potentially decades after all the meaningful decommissioning decision points fails the First Circuit’s straightforward directions. The agency should withdraw the Proposed Rule and replace it with a process whereby the decision to decommission requires agency approval of a formal plan, hearing rights, and NEPA supplementation. We turn to the agency’s continuing (but limited) NEPA obligations next.

4. *The Proposed Rule would violate NEPA.*

The NRC claims that “[a] nuclear power reactor licensee’s transition from operating to decommissioning status does not involve an agency action that would trigger NRC responsibilities under environmental statutes, such as the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), or the National Historic Preservation Act (NHPA).” 87 Fed. Reg. 12,291 (emphasis added). This is wrong. The NRC implies that it is only NRC regulations that require a licensee to consider whether actions will result in significant environmental impacts. 87 Fed. Reg. 12,291 (citing 10 C.F.R. §§ 50.82(a)(4)(i) (for nuclear power reactors licensed under 10 CFR part 50) and 52.110(d)(1) (for nuclear power reactors licensed under 10 CFR part 52)). Inconsistent with this implication, the NRC has produced a Generic Environmental Impact Statement for decommissioning, the stated purpose of which is to comply with NEPA. NUREG–0586, Supplement 1, Volumes 1 and 2, “Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities: Regarding the Decommissioning of Nuclear Power Reactors” (ML023470327) (Nov. 30, 2002) (hereinafter, “Decommissioning GEIS”). It is unclear whether the NRC believes that NEPA review of decommissioning is not required because there is no major agency action or whether the NRC believes that *additional* NEPA review of decommissioning is unnecessary because environmental impacts from decommissioning can be bounded by existing environmental reviews. The NRC is wrong on both counts.

First, the NRC must take major agency action on decommissioning that will trigger NEPA. As discussed, to come into compliance with the Atomic Energy Act and First Circuit precedent, the NRC must update its regulations to require a license proceeding to begin decommissioning. This will constitute major federal action triggering NEPA review. *See New York v. NRC*, 681 F.3d 471, 476 (D.C. Cir. 2012) (“We have long held that NEPA requires that environmental issues be considered at every important stage in the decision making process concerning a particular action.” (internal citations omitted)) (“The issuance or reissuance of a reactor license is a major federal action affecting the quality of the human environment.”). Even if the NRC determines that a formal license proceeding is not required, the NRC should still require a formal decommissioning plan that would also trigger NEPA review. *See Baran* at 6. The NRC should not make the changes to 10 C.F.R. 51.53 or 51.95 in the Proposed Rule. 87 Fed. Reg. 12,292.

Second, we agree with the Commission’s instructions that “the staff should update NUREG–0586, Supplement 1, Volumes 1 and 2, ‘Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities: Regarding the Decommissioning of Nuclear Power Reactors’ (Decommissioning GEIS).” Staff Requirements – SECY-18-0055 – Proposed Rule: Regulatory Improvements for Production and Utilization Facilities Transitioning to Decommissioning (RIN 3150-AJ59) (ML21307A056) (Nov. 3, 2021). The NRC last updated the Decommissioning GEIS twenty years ago in 2002. The world has changed in twenty years and the Decommissioning GEIS must be updated to reflect that. Moving forward, the NRC should require updates to the Decommissioning

GEIS no later than every 10 years, as it does with other generic EIS. *See e.g.* 10 C.F.R. Part 51, Subpart A, Appendix B.

However, the NRC must require a site-specific supplemental EIS as part of every new decommissioning proceeding.¹⁷ An agency must supplement an EIS in the event of “significant new circumstances,” or new “information relevant to environmental concerns and bearing on the proposed action or its impacts.” 40 C.F.R. § 1502.9(c); *Deukmejian v. NRC*, 751 F.2d 1287, 1298 (D.C. Cir. 1984) (emphasis added). As we have previously written, while in most instances we would not expect this to be a vast undertaking or require an entirely new EIS, site specific supplementation for the particular, localized impacts and crucial land use decision points can resolve or clarify a host of issues. Nuclear power plants differ in significant ways—for example, the operations history and any associated tritium leaks or water impacts; the deterioration and activation of concrete and metal reactor components; the configuration and source terms of spent fuel pools; and the evolution of land use patterns, economies, and equity and environmental justice characteristics of the host communities. These site-specific issues point to the need for a close look at plans and risks with an opportunity for stakeholder input with formal accountability and provide clarity for the role of State and local governments and non-governmental stakeholders.

Also, in a clear violation of NEPA, the Proposed Rule would allow site-specific environmental review to occur seemingly during decommissioning or right before license termination. *See e.g.*, 87 Fed. Reg. 12291. (“Given that some decommissioning activities will occur well in the future, licensees might not be able to make the definitive conclusion that impacts will be bounded at the PSDAR stage . . . In that case, the licensee should identify in the PSDAR the decommissioning activities that are not bounded by previous environmental reviews and will be addressed in the future.”). NEPA requires that environmental review occurs *before* actions are taken and that environmental review not be segmented. *See Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989) (“NEPA ensures that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast.”); *Baltimore Gas & Elec. Co. v. Nat. Res. Def. Council, Inc.*, 462 U.S. 87, 97 (1983) (NEPA requires agencies “take a ‘hard look’ at the environmental consequences before taking a major action.”); *see also Kleppe v. Sierra Club*, 427 U.S. 390, 409-10 (1976) (recognizing that “segmentation of an environmental investigation may slight “cumulative or synergistic environmental impact[s].”). As it is, often the NEPA process is triggered too late to be fully effective.¹⁸ The NRC must amend the decommissioning regulations to require NEPA review before decommissioning commences.

¹⁷ The NRC already requires site specific environmental review in addition to a generic EIS for renewing operating licenses due to an acknowledgement that each site has different issues that cannot be analyzed generically. *See e.g.* 10 C.F.R. Part 51, Subpart A, Appendix B.

¹⁸ CEQ, *The National Environmental Policy Act, A Study of Its Effectiveness After Twenty-five Years*, at 11 (Jan. 1997).)

Finally, we note that the Proposed Rule concludes its discussion of changes to Part 50 and 52 by finding that “[t]hese proposed changes would *reduce the regulatory burden on the licensee* by removing the duplicative requirement to address unbounded environmental impacts at the PSDAR stage.” 87 Fed. Reg. 12,292 (emphasis added). We reiterate: reducing the regulatory burden on the licensee is not the purpose of the NRC. The NRC is a regulatory agency charged with “assur[ing] the common defense and security and [] protect[ing] the health and safety of the public.” 42 U.S.C. 2012.

B. Decommissioning Options and Timeframe

The Commission originally directed NRC Staff to consider “[t]he appropriateness of maintaining the three existing options for decommissioning (DECON, SAFSTOR, and ENTOMB) and the timeframes associated with those options,” 87 Fed. Reg. at 12,263. The Proposed Rule does not address the topic at all. We assert that the decommissioning options and their timeframes must be addressed in this rulemaking. As a matter of policy and a matter of law, the NRC should eliminate the ENTOMB decommissioning option and, at a minimum, fundamentally revise the DECON and SAFSTOR options to require decommissioning begin as soon as feasible after a reactor permanently shuts down.

1. *It will be good for workers, the community, and the states for NRC to revise the decommissioning options and timeframe.*

The Proposed Rule would continue to allow the licensee full discretion as to when to start decommissioning within a 60-year period. This is a disruptive and wasteful practice with no basis in safety.¹⁹ It’s crucial that the NRC require the industrial cleanup that is the decommissioning process to take place as soon as practicable after a reactor shuts down. Waiting decades to begin decommissioning harms communities, the environment, and larger state interests while also losing the significant advantages of a workforce that knows the facility inside and out. We say again now—the NRC should dispense with the ENTOMB option and require decommissioning begin as soon as feasible after a reactor permanently shuts down.

The Proposed Rule would in error continue to allow SAFSTOR decommissioning, where the reactor is defueled but all associated parts of the facility are left in place for up to six decades for later decontamination and accomplishment of the vast majority of the work. A sixty-year window of time where an industry can mothball a reactor and the attendant cleanup is a devastating proposition for a workforce that has spent decades servicing a huge, complicated facility; a community that has relied on steady revenues and taxes; an environment where existing harms are left to fester; and a state’s interest in repurposing the land. The cleanup, whenever it does happen, is made more

¹⁹ See Baran at 7 (“First, the historic safety case for a 60-year timeframe does not reflect the improved radiation protection practices that have developed over time, new technologies for decommissioning, or recent experience and trends.”). See also, ANOPR Comment at 9, 28.

complicated and even potentially dangerous by having lost the expertise, knowledge, and familiarity of the existing workforce.

We want to reiterate: the best workforce to conduct decommissioning of nuclear reactors is the existing workforce—not only to bolster transition for the workers and communities of a major industrial facility closing, but also because the existing workforce is the most knowledgeable about the reactors in question. These workers represent firsthand knowledge of how these facilities operate. And this workforce is aging: nearly a third of professionals in the nuclear industry are aged 55 or above.²⁰ A sixty-year decommissioning window will result in losing talented nuclear professionals and a potentially significantly decreased pool of professionals able to even do the job.

The Proposed Rule would also continue to allow ENTOMB, where the facility is basically covered over and left forever. But ENTOMB is an inappropriate option because it is essentially predicated on cessation of reactor operations caused by a severe accident. Currently three decommissioned reactors in the United States are in ENTOMB status: the Boiling Nuclear Superheater (BONUS) reactor in Punta Higuera, PR; the Hallam reactor in Hallam, NE; and the Piqua reactor in Piqua, OH. Hallam Nuclear Power Facility (HNPF) in Nebraska was a 75 Mwe sodium-cooled graphite-moderated nuclear power reactor near Lincoln, Nebraska. After safety-implicating failures, the reactor was decommissioned in 1969 in ENTOMB status, with its nuclear components sealed in concrete. We note that this reactor has a similar capacity to many Small Modular Reactor proposals.

On the extreme end, an example of ENTOMB is the engineered efforts to contain radioactive debris from the Chernobyl Unit 4 reactor following the accident in Ukraine in April 1986. The ongoing war in Ukraine and the attendant Russian troop disturbance of the massively contaminated site demonstrates a nightmare scenario made possible by ENTOMB that the NRC should make clear to communities the agency will do all it can do avoid. We note, that under the Proposed Rule, a licensee could, in principle, submit a PSDAR selecting the ENTOMB option and be in compliance with the law, and neither the NRC nor any third party would have a clear regulatory means to challenge that decision.

No American state, city, or community, no matter how much they might have benefitted from decades of power generated by a nuclear reactor, signed up for a permanent, extraordinarily contaminated sarcophagus. As a society we have the capacity to address the risk and challenges associated with the demanding reactor cleanup and we should do so. Even entertaining the offer of letting the nuclear industry simply cover over a problem and walk away should be beyond the pale and not contemplated in any rule issued in the year 2022.

²⁰ Sonal Patel, *Global Report Warns of Looming Skills Shortages in Power, Nuclear, Renewables Sectors* (Jan. 24, 2019) <https://www.powermag.com/global-report-warns-of-looming-skills-shortages-in-power-nuclear-renewables-sectors/?pagenum=3>.

The final decommissioning rule should make the standard timeline for decommissioning a prompt start upon shutdown and, at most, only allow SAFESTOR in limited cases and after a formal decommissioning plan subject to a licensing proceeding and NEPA supplementation.

2. The Atomic Energy Act requires the NRC revise the decommissioning timeframe.

In addition to the fact that revising the decommissioning options and timeframes is just good policy, the Atomic Energy Act requires it. If a nuclear facility—even one that is not operating—is licensed under Section 103 of the Atomic Energy Act, the Act requires that the facility’s license include a specific termination date no longer than 40 years after issuance. 42 U.S.C. 2133(c) (“[e]ach such license shall be issued for a specified period, as determined by the Commission, depending on the type of activity to be licensed, *but not exceeding forty years* from the authorization to commence operations, and may be renewed upon the expiration of such period.” (emphasis added)). In order to comply with the Atomic Energy Act, the Proposed Rule must be revised to (1) require licensees submit a specific period for decommissioning through a licensing proceeding and (2) limit DECON and SAFESTOR to no more than 40 years.

C. Graded Approach

As we have stated in prior comments, we agree with a graded approach because, as Chairman Hanson expressed, “decommissioning requirements should be commensurate with the reduction in risk that occurs over time, while maintaining safety and security.” Hanson at 2. However, NRDC disputes that the risk of a radiological release from a decommissioning reactor is significantly lower than that for an operating reactor. Therefore, we continue to disagree with how the Proposed Rule defines the levels of decommissioning. *See* 87 Fed. Reg. at 12,267. We suggest that the final rule should dispense with Level 2 and instead simply include Levels 1, 3, and 4.

The Proposed Rule defines a reactor in Level 2 as “defueled and permanently shut down, and spent fuel in the SFP has decayed and cooled sufficiently such that it cannot heat up to the zirconium cladding ignition temperature within 10 hours under adiabatic conditions.” 87 Fed. Reg. at 12,267. At this level, the Proposed Rule would significantly reduce emergency preparedness, cyber security, and insurance requirements.

Yet, as the Proposed Rule recognizes,²¹ during the decommissioning of nuclear reactors, the highest-impact radiological risk is associated with zirconium fires at the storage of spent fuel onsite in wet pools. And analysis has demonstrated that radiological release from spent fuel pool fires would be potentially much larger than

²¹ *See* 87 Fed. Reg. at 12,267 (“NUREG–1738 identified a zirconium cladding fire resulting from a substantial loss of water from the SFP as the only postulated scenario at a decommissioning nuclear power reactor that could result in a significant radiological release.”).

from reactor accidents.²² The risk of off-site release of fission products is not just a function of whether the reactor is operational or how long the spent fuel has been cooling, but also a function of facility maintenance, accident mitigation measures, and security. Spent fuel remains most dangerous while resting in overpacked pools not designed for the length of time they will be used, including when a reactor has been shut down and decommissioning has commenced. Until spent nuclear fuel is removed from the decommissioning plant site, a large radiological source term is still present.

NRDC disagrees with the Proposed Rule that there should be any erosion of requirements until all spent fuel is transferred to dry cask storage that meets protective standards and a more robust barrier to the release of fission products exists. We agree with Commissioner Baran's statements:

- "NRC and EPA understood that beyond-design-basis accidents were unlikely, but they also knew that EPZs should be in place to provide defense-in-depth because 'the probability of an accident involving a significant release of radioactive material, although small, is not zero.'" Baran at 7. "[T]here is broad agreement that all-hazards planning would not be as effective as dedicated radiological emergency planning in an actual radiological emergency." Baran at 9.
- "FEMA and states representing more than 96 million Americans recommend that NRC require dedicated radiological emergency planning, including a 10-mile EPZ, until all spent nuclear fuel at a site is removed from the spent fuel pool and placed in passive, dry cask storage." Baran at 10.
- "Although I agree with the NRC staff that cyber security requirements should apply to Level 1 plants, I believe it would be prudent to apply these requirements until the spent fuel pool no longer contains spent fuel. The revised draft proposed rule should extend cyber security requirements to a shutdown nuclear power plant until all its spent fuel is transferred to dry cask storage." Baran at 12.
- "The draft proposed rule would reduce the amount of required offsite liability insurance (from \$450 million to \$100 million) and onsite property insurance (from \$1.06 billion to \$50 million) for shutdown nuclear power plants once they reach Level 2. Because the storage of spent nuclear fuel in spent fuel pools poses credible risks of onsite and offsite contamination in the event of a zirconium fire, the revised draft proposed rule should maintain the existing level of required insurance until a plant's spent fuel is transferred to dry cask storage." Baran at 12.

²² Jungmin Kang, Bemnet Alemayehu, Matthew McKinzie and Michael Schoeppner, *An Analysis of a Hypothetical Release of Cesium-137 from a Spent Fuel Pool Fire at Kori-3 in South Korea*, Transactions of the American Nuclear Society, Vol. 117 (Oct. 29-Nov. 2, 2017), <https://sgs.princeton.edu/sites/default/files/2020-12/kang-2017.pdf>. See also Frank N. von Hippel and Michael Schoeppner, Reducing the Danger from Fires in Spent Fuel Pools, *Science & Global Security*, Vol. 24, No. 3, 141-173 (2016) <https://scienceandglobalsecurity.org/archive/sgs24vonhippel.pdf>.

D. Backfit Rule

1. The backfit Rule does not apply to decommissioning.

None of the amendments to NRC regulations that we have proposed here would constitute backfitting under 10 CFR 50.109, “Backfitting,” or raise finality concerns under 10 CFR Part 52 because the plain language and history of the rule demonstrate that the backfit rule currently does not apply to decommissioning. Moreover, the decommissioning rule “should include a provision that explicitly affirms this limited scope.” Baran at 15.

Simply put, the backfit rule has never applied to decommissioning. The plain language of the rule supports this conclusion. *See* 10 C.F.R. § 50.109 (listing “design” 13 times, “construct” 5 times, and “operate” 5 times, but never listing anything related to possession-only, decommissioning, or license termination). The NRC acknowledges this plain language in the Proposed Rule. 87 Fed. Reg. at 12,296 (“The language of the Backfit Rule clearly applies to a licensee designing, constructing, or operating a nuclear power facility.”).

The rule history also supports that the backfit rule never applied to decommissioning. The Proposed Rule acknowledges that none of the backfit rulemakings even reference decommissioning. 87 Fed. Reg. at 12,296. Instead, like the current rule, all of the rulemakings only discuss facility design, construction, and operation. As Commissioner Baran lays out, “[f]or more than twenty years, the NRC staff has recognized that the terms within the rule indicate application to *operating* Reactors.” Baran at 15 (emphasis added).

The only support in the Proposed Rule of the claim that there is “uncertainty” as to whether the backfit rule applies to decommissioning are two unconvincing points; the remaining six points on the topic support that the backfit rule does not apply to decommissioning. *See* 87 Fed Reg 12,296.

The first point explains, “[t]he Backfit Rule has no end point when the rule no longer applies, thereby implying that backfit protection continues into decommissioning and up to the point of license termination.” 87 Fed. Reg. at 12,296. This is misguided. The backfit rule specifies that it “applies to a licensee designing, constructing, or operating a nuclear power facility.” 10 C.F.R. § 50.109. These are three distinct phases of a nuclear facility life cycle and explicitly do not include decommissioning—the time after operating a nuclear power facility. If the rule intended to include decommissioning, the NRC could have included that in this list. But in drafting the rule, the NRC left out any discussion of decommissioning. The Proposed Rule would arbitrarily and capriciously read in a term explicitly excluded in the backfit rule.

The second point attempts to reason out of this clear limitation by claiming that “[t]he term ‘operate’ could reasonably be interpreted as including activities to decommission the reactor.” 87 Fed. Reg. at 12,296. This is a disingenuous and tortuous

reading. *See* 87 Fed. Reg. 12,297. The Proposed rule claims that “[a] new backfitting provision for licensees in decommissioning would eliminate any confusion with the meaning of the words ‘operate a facility’ in 10 CFR 50.109(a)(1), as compared to other uses of the term ‘operate’ in 10 CFR Chapter I.” 87 Fed. Reg. at 12,297. If anything, this proposal *creates* confusion about the meaning of the word “operate.” As Commissioner Baran notes, “a few pages [after the discussion of the meaning of operate for the backfit rule] in the draft proposed rule, the staff defines ‘operate’ in a totally contradictory way in its discussion of foreign ownership, control, or domination.” Baran at 14. Before the proposed rule, there was no confusion as to when a facility operates. NRC precedent is clear—decommissioning does not take place during the operation of a nuclear facility. The NRC issues separate “operating licenses” versus “possession-only licenses.” And one of the first steps every facility takes to begin decommissioning is changing from an “operating” to “possession-only” license. *See, e.g.* 2020 Three Mile Island Unit 2 license (ML20352A381); 1993 Trojan possession only license (ML18095A126). The NRC’s attempt to create confusion to fit decommissioning into the backfit rule is arbitrary and capricious.

The remaining six bullets supplied in the Proposed Rule support the fact that the backfit rule never applied to decommissioning.²³

Moreover, as staff acknowledge, there have been decades of discussions regarding *whether the backfit rule should be updated* to apply to decommissioning. 87 Fed. Reg. 12,296. But it has never happened. *Id.*²⁴ Even here, the Proposed Rule would *revise* the backfit rule to make it applicable to decommission. This inherently means that the

²³ Those bullets are:

- The Backfit Rule was developed when the decommissioning of plants was not an active area of regulatory concern.
- The Backfit Rule’s definition of “backfitting” uses terms associated with the design, construction and operation of a facility, rather than its decommissioning, although the staff noted in SECY-98-253 that “prior to the 1996 decommissioning rule, the Commission regarded decommissioning as a phase of the plant’s life cycle which is different from the operational phase.”
- Two of the factors used in evaluating a backfit—costs of construction delay/facility downtime, and changes in plant/operational complexity—are targeted to power operation and “conceptually inappropriate in evaluating the impacts of a backfit on a decommissioning plant.”
- The statement of considerations for the 1970, 1985, and 1988 final Backfit Rules did not discuss any aspect of decommissioning, focusing instead on construction and operation.
- Proposed changes to decommissioning requirements usually focused on relaxing requirements or on whether a requirement applicable to an operating reactor continued to be applicable to a decommissioning plant. Thus, “the notion of a ‘substantial increase’ in protection to public health and safety from a backfit does not appear to be particularly useful [in decommissioning].”
- The 1996 decommissioning final rule did not directly respond to questions from the public on the applicability of the Backfit Rule to a decommissioning plant.

87 Fed. Reg. at 12,296.

²⁴ We note that the Proposed Rule states that “As explained in the section titled ‘Actions Leading to this 2018 Proposed Rule’ in this document, the NRC ultimately did not conduct that rulemaking,” 87 Fed. Reg. at 12,296, but there is no such section in the document. The NRC should clarify to which section it is referring.

backfit rule *currently does not apply to decommissioning activity* because the Staff believe an amendment is required to do so. Even if the Commission decides that the backfit rule *should* apply to decommissioning in the future, any changes the Commission makes to decommissioning rules now do not have to comply with the backfit rule.

The backfit rule has never applied to decommissioning and the NRC should include a provision that explicitly affirms the rule's limited scope.

2. The NRC cannot change the backfit rule in this decommissioning rulemaking.

Staff appear to be using this decommissioning rulemaking to make additional substantive revisions to the backfit rule unrelated to decommissioning:

In the current § 50.109(a)(6), the NRC proposes to insert a sentence explaining that a documented evaluation, which is used by the NRC to justify not performing a backfit analysis, must include a consideration of the costs of imposing the backfit if the basis for backfitting is bringing a facility into compliance with a license or the rules or orders of the Commission, or into conformance with the licensee's written commitments.

87 Fed. Reg. 12297. NRC has no basis for making a change to operating reactor rules in this decommissioning rulemaking. It is one thing to add headings and update bullet numbering, but it is inappropriate and outside of the scope for NRC to add in a new standard for substantively unrelated provisions.

Moreover, when NRC first updated the backfit rule, the DC Circuit held that the Atomic Energy Act "precludes the NRC from [taking] costs into account in establishing or enforcing the level of adequate protection, but allows the NRC to consider costs in devising or administering requirements that offer protection beyond that level." *Union of Concerned Scientists v. U.S. Nuclear Regulatory Comm'n*, 824 F.2d 108, 114 (D.C. Cir. 1987). The Court explained:

The [Atomic Energy Act] establishes a two-tier structure for protecting the public health and safety. Section 182(a) of the Act commands the NRC to ensure that any use or production of nuclear materials 'provide[s] adequate protection to the health or safety of the public.' 42 U.S.C. § 2232(a) . . . [and] Section 161 of the Act empowers (but does not require) the Commission to establish safety requirements that are not necessary for adequate protection and to order holders of or applicants for operating licenses to comply with these requirements.

Id. Thus, the Act bars the NRC from taking cost into consideration when achieving "adequate protection." Yet the NRC is now trying to slip in such a requirement. The Proposed Rule states that an exemption to the backfit rule is where the NRC finds

“modification is necessary to bring a facility into compliance with a license or the rules or orders of the Commission, or into conformance with written commitments by the licensee.” But to meet this exemption, documented evidence “must include a consideration of the costs of imposing the modification.” 87 Fed. Reg. at 12,328. This evidentiary requirement is in direct violation of the Atomic Energy Act and express instructions from the D.C. Circuit.

E. Foreign Ownership

The Proposed Rule defines when a nuclear power plant is no longer a “production or utilization facility” and specifies that one reason for this amendment is to address when the foreign ownership, control, or domination prohibition found in 10 C.F.R. § 50.38 no longer applies to such a facility. 87 Fed. Reg. at 12,297- 12,300.

We see Commissioner Baran’s point that “this is a reasonable approach based on a natural reading of the term ‘operate.’” Baran at 15. However, we note again the internal conflict of the Proposed Rule’s redefinition of “production and utilization facility.” *See supra* at 9. Nuclear power plants in decommissioning remain licensed under 10 C.F.R. Part 50 or 52 until license termination at the end of decommissioning. *See e.g.* Request to Terminate the Humboldt Bay Power Plant 10 CFR Part 50 License (Oct. 21, 2021) (ML2129A421). Part 50 and 52 specify that they regulate utilization or production facilities. *See* 10 C.F.R. 50.1, 10 C.F.R. 52.0 (governs nuclear power facilities licensed under Atomic Energy Act Section 103 licenses for production or utilization facilities). And the Atomic Energy Act prohibits licenses for production and utilization facilities from being issued “to an alien or any corporation or other entity if the Commission knows or has reason to believe it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government.” 42 U.S.C. § 2133; *see also* 42 U.S.C. § 2134. Following these three statutory and regulatory steps, the prohibition on foreign ownership remains until the Part 50 or 52 license is terminated at the end of decommissioning. The attempt by the Proposed Rule to do otherwise further muddies the water.

Additionally, the Atomic Energy Act restrictions on foreign ownership, control, and domination materially concern protecting the common defense and security. As the U.S. Court of Appeals for the D.C. Circuit described:

[T]he internal evidence of the Act is that Congress was thinking of such things as not allowing the new industrial needs for nuclear materials to preempt the requirements of the military; of keeping such materials in private hands secure against loss or diversion; and of denying such materials and classified information to person’s whose loyalties were not to the United States.

Siegel v. Atomic Energy Comm’n, 400 F.2d 778 (D.C. Cir. 1968). Congressional intent with respect to safeguarding the common defense and security is centered on access and control over special nuclear material and spent nuclear fuel. Reactor decommissioning

necessarily involves spent nuclear fuel handling, storage, and security, and thus Atomic Energy Act foreign ownership restrictions as applied to operational reactors are fully applicable to reactors undergoing decommissioning.

F. Decommissioning Trust Fund

We reiterate our previous comments. *See* ANOPR Comment at 23-26. Decommissioning is an expensive process, and experience has shown that current decommissioning funding mechanisms could prove insufficient to fully decommission reactors. The NRC should reconsider the Proposed Rule's treatment of this topic.

We note that Chairman Hanson and Commissioner Baran seem to share these concerns. Commissioner Baran demonstrates how "the draft proposed rule would weaken NRC's financial assurance requirements," Baran at 12, and we agree. We therefore support Chairman Hanson disapproval of the staff's recommendation to allow the use of Decommissioning Trust Funds for Spent Fuel Management expenses, Hanson at 7, and we support reconsideration of the existing generic decommissioning funding formula. *Id.*, Baran at 12-13.

IV. Responses to Specific Requests for Comments

The majority of our responses to the NRC's questions in the Proposed Rule (at 87 Fed. Reg. 12,302-304) are found in the comments above or in the full record of our comments on this multi-year process.²⁵ We add only a few explicit notes below.

PSDAR Approval

As part of this rulemaking, should the NRC require approval of the PSDAR, a site-specific environmental review, and hearing opportunity before a licensee undertakes any decommissioning activity?

Yes, to implement good policy, improve public trust, and ensure compliance with the Atomic Energy Act and NEPA, the NRC should require a formal decommissioning plan with NRC review, a site-specific environmental review, and a hearing opportunity. *See supra* at 3-15.

Other than NRC review and approval of the PSDAR, are there other activities that could help to increase transparency and public trust in the NRC regulatory framework for decommissioning?

The only way for the NRC to increase transparency and public trust is to include the public in the decommissioning process in a meaningful way. For decades, the public has provided the same solution to transparency and trust—meaningful hearing rights. *See supra* at 3-7. At a certain point, it becomes disingenuous for the NRC to continue asking what more is needed.

²⁵ *See* ANOPR Comment and Draft Regulatory Basis Comment.

Should the rule provide a role for the states or local governments in the process? What should that role be? What are the advantages or disadvantages of various roles?

Yes. Atomic Energy Act Section 189(a) hearing rights and NEPA review will go a long way to providing a meaningful role for the states and local governments. We also support community advisory panels and Commissioner Baran's suggestion that "[t]he revised draft proposed rule should require NRC to respond to information requests from any community advisory panel established by a host state." Baran at 5.

Timeframe for Decommissioning

What are the advantages and disadvantages of requiring prompt decontamination rather than allowing up to 60 years to decommission a site?

The advantages to prompt decontamination far outweigh the disadvantages, especially when it comes to protecting communities and skilled workforces. *See supra* at 15-17.

As part of its review of a PSDAR, what are the advantages and disadvantages of NRC evaluating and making a decision about the timeframe for decommissioning on a site-specific basis?

Some regulatory flexibility in allowing the NRC to make decisions about the timeframe for decommission on a site-specific basis is fine—to a certain point. The Proposed Rule would not change the current permissive system of permitting decommissioning to occur within 60 years. This delay is not good for workers, the community, the states, or the environment. Moreover, it violates the Atomic Energy Act. The final decommissioning rule should require decommissioning to occur as soon as practicable upon final cessation of reactor operations. *See supra* at 15-17.

Emergency Planning

What are the advantages and disadvantages of requiring dedicated radiological emergency planning, including a 10-mile EPZ, until all spent nuclear fuel at a site is removed from the spent fuel pool and placed in dry cask storage? Is there additional information the NRC should consider in evaluating whether all-hazards planning would be as effective as dedicated radiological emergency planning? The NRC has determined that 10 hours would be a sufficient amount of time for an emergency response to a spent fuel pool accident based on an all-hazards plan. Is there additional information the NRC should consider in evaluating this issue?

The NRC should consider analysis that demonstrates that radiological release from spent fuel pool fires would be potentially much larger than from reactor accidents and that the risk of off-site release of fission products is not just a function of whether the reactor is operational or how long the spent fuel has been

cooling, but also a function of facility maintenance, accident mitigation measures, and security. Spent fuel remains most dangerous while resting in overpacked pools not designed for the length of time they will be used, including when a reactor has been shut down and decommissioning has commenced. Until spent nuclear fuel is removed from the decommissioning plant site, a large radiological source term is still present. NRDC disagrees with the Proposed Rule that there should be any erosion of requirements until all spent fuel is transferred to dry cask storage that meets protective standards and a more robust barrier to the release of fission products exists. *See supra* at 17-18.

Decommissioning Trust Fund

Should the NRC's regulations allow decommissioning trust fund assets to be used for spent fuel management if (1) there is a projected surplus in the fund based on a comparison to the expected costs identified in a site-specific cost estimate and (2) the assets are returned to the fund within an established period of time? What are the advantages and disadvantages of allowing decommissioning trust fund assets to be used for those purposes? What are the advantages and disadvantages of allowing decommissioning trust fund assets to be used for non-radiological site restoration prior to the completion of radiological decommissioning?

Decommissioning trust fund assets should be used for decommissioning alone. As Chairman Hanson explained, “licensees have numerous options available to fund spent fuel management activities (e.g., sub-accounts in the decommissioning trust fund) without compromising resources destined for radiological decommissioning.” Hanson at 6. *See also supra* at 23.

Timing of Decommissioning Funding Assurance Reporting

What are the advantages and disadvantages to extending the reporting frequency from two years to three years? Does this change affect the risk of insufficient decommissioning funding?

The Atomic Energy Act, 42 U.S.C. § 2201, requires the Commission to establish regulations to ensure adequate financial surety will be provided for decommissioning before the termination of any license. There is at best mixed evidence the current rules achieve this legal directive and the Proposed Rule does not go far enough to improve them, and in some cases will make the existing financial shortfalls worse. We agree with Commissioner Baran’s assessment of this point. Baran at 11-14.

Backfit Rule

What are the advantages and disadvantages of applying the Backfit Rule to decommissioning nuclear power plants?

First, this question makes clear that the Backfit Rule does not currently apply to decommissioning, and therefore the NRC does not need to ensure this rule

complies with the Backfit Rule. Second, the Backfit Rule should not apply to decommissioning. *See supra* at 19-22.

Exemptions

What are the advantages and disadvantages of the current 10 CFR 50.12 approach to decommissioning-related exemptions? What standard should the NRC apply in determining whether to grant exemptions from the new or amended regulations?

We agree with Commissioner Baran that, as “[o]ne of the main purposes of this rule is to move away from regulation by exemption . . . the rule should establish a clear expectation that exemptions from the new regulation will be granted rarely and only in cases that present unique circumstances not considered in this rulemaking process.” Baran at 16.

What are the advantages and disadvantages of providing an opportunity for the public to weigh in on such exemption requests?

When a hopefully rare exemption request occurs, it is vital that the public be given the opportunity to weigh in on the request.

V. Conclusion

We appreciate the opportunity to comment. If you have any questions, please do not hesitate to contact us.

Sincerely,

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