Radiation Standard Shift Might Add Complications For Cos.

By **Tison Campbell, Christine Jochim and Jasper Noble** (February 5, 2026)

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On Jan. 12, Politico's E&E News obtained and published an internal memo from the U.S. Department of Energy notifying agency staff that it would be eliminating the "as low as reasonably achievable," or ALARA, radiation protection standard for agency practices and regulations.[1]

The memo, dated Jan. 9, states that eliminating ALARA would be a "significant reform" that will "reduce the economic and operational burdens on nuclear energy while aligning with available scientific evidence."[2]

According to a Jan. 21 followup E&E News article, "ALARA remains the department's standard."[3] Below, we examine some of the challenges that could arise if the DOE and other federal agencies were to move away from ALARA.

Importantly, the elimination of ALARA will not affect the DOE's occupational and public dose limits, which are codified in regulations and orders, nor does it affect any regulations established by the U.S. Nuclear Regulatory Commission or the U.S. Environmental Protection Agency.[4]

The NRC is responsible for licensing and regulating commercial nuclear reactors and nuclear materials, while the DOE's authority is generally limited to its own employees, contractors and federal facilities.

Under ALARA, radioactive exposure is limited to levels "as low as is reasonable, taking into account social, technical, economic, practical, and public policy considerations."[5] The principle was initially developed by the International Commission on Radiological Protection, and by the Atomic Energy Commission and its successor agencies, the DOE and the NRC.

The development of the rule took place from the 1960s to the 1980s, in response to concerns that any dose of radioactive exposure posed a health risk.[6] These concerns are reflected in the linear no-threshold, or LNT, model, which has been the foundation for radiation protection regulations since the 1950s.[7]

LNT is a conservative model, derived from, among other things, studies of the survivors of the Hiroshima and Nagasaki atomic bombings.[8] Extrapolating from these large, acute doses, LNT makes the conservative determination "that ionizing radiation is always considered harmful and that there is no threshold below which an amount of radiation exposure to the human body is not harmful."[9]

ALARA implements this idea by providing further reductions in dose for the benefit of the nuclear workforce.[10] Federal regulations clarify that ALARA does not set a specific dose limit, but rather establishes a "process which has the objective of attaining doses as far

below the applicable limits … as is reasonably achievable."[11]

Federal agencies began integrating ALARA principles into their radiation protection frameworks in the decades following the creation of the NRC and the DOE, in tandem with the surge in public concerns about radioactive exposure.

The DOE issued its first ALARA guidance to agency contractors on reducing radiation exposure in 1980, and implemented federal regulations to formalize those practices in 1993.[12] The NRC adopted separate, comparable regulations in 1991.[13]

The Administration's New Approach to Radiation Protection

The Trump administration has identified the deployment of nuclear power as a top energy priority. In response, the DOE is now using long-neglected Atomic Energy Act authority to accelerate the testing and deployment of new nuclear technologies.[14]

In May 2025, President Donald Trump issued four executive orders targeting nuclear development and regulation.[15] Among several other initiatives, the orders directed the NRC, the DOE, and the U.S. Department of Defense to coordinate on reactor development to minimize duplication between the agencies' efforts.[16]

The executive orders further require the NRC to review and revise its licensing process, including reconsideration of LNT and ALARA.[17] The NRC expects to issue these proposed rules early this year.

In the executive orders, the DOE was tasked with developing a nuclear reactor pilot program to test 10 reactors and deploy three new operational reactors by July 4 of this year.[18] The DOE selected 11 projects for the pilot program in August 2025.[19]

The DOE's decision to eliminate ALARA will provide greater flexibility to these new reactor developers, which will no longer have to consider ALARA in their facility designs and operating procedures. Given recent coordination between the DOE and the NRC, it appears likely that the NRC will follow the DOE's lead.

But the elimination of ALARA is only the beginning of the story. How this change is implemented will affect existing facilities and new builds, as licensees update designs and procedures to reflect post-ALARA standards and guidance.

What comes next will determine real-world occupational and public doses, designs (including shielding), waste disposal and decommissioning criteria, and other processes and procedures that could affect worker and public exposures. It's unclear how a move away from ALARA at the NRC could affect already-approved designs where ALARA was an integral part of the design process and NRC approval.

Changes to revise approved designs, for example, to reduce radiation shielding to allow for doses closer to the regulatory limits, could require significant, costly revisions that would require NRC review and approval. And revising designs to not consider ALARA could create challenges for international deployment in countries that continue to follow the ALARA principle.

If the NRC follows the DOE's lead and eliminates ALARA, then reactor designers will need to assess whether the cost of design changes and the additional complexity of maintaining a separate design for non-ALARA markets outweighs the potential savings during construction

and operation.

Controversy Regarding the End of ALARA

The DOE memo relies on a July 2025 report from the Idaho National Laboratory, or INL, recommending that the annual occupational dose of 5 rem be maintained, and that "all ALARA requirements and limits below [that] threshold" be eliminated.[20]

The report includes a review of decades of data analyzing the health effects of "ionizing radiation at annual doses of [10 rem] or less" and highlights the INL's determination that health studies have consistently failed to evidence any "statistically significant adverse health effects at doses below [10 rem] delivered at low dose rates."[21]

Along with the additional health data, the INL report and the DOE memo cite the financial and social burdens that ALARA imposes on the development of nuclear power. The INL report discusses the "excessive economic costs" associated with ALARA that fail to provide "corresponding health benefits" and "substantially impact plant economics through loss of generation revenue."[22]

The DOE and the INL also blame some of the "disproportionate [public] fear" about nuclear power generation on the "overly conservative regulatory approaches" of the ALARA framework.[23]

Regulators, experts and industry advocates are split on support for ALARA. Critics of the model have argued against the resulting "excessive regulatory conservatism" and unnecessary costs bred by the subjective standard, and have campaigned for the adoption of clearer, alternative approaches like de minimus dose rates.[24]

Nonprofit groups like the Breakthrough Institute have criticized fragmented and inconsistent federal ALARA practices, and have noted that the subjective differences across federal agencies and jurisdictions in determining just how low to set "as low as reasonably achievable" has led to uncertainty, delays and increased compliance costs for nuclear facilities.[25]

Further, the Breakthrough Institute observes that the continued use of ALARA and LNT is more of a policy decision than a scientific one, driven in large part by the uncertainty surrounding the health effects of low-dose radiation exposure.[26]

Supporters of maintaining ALARA, however, argue that the health science surrounding radiation exposure is far from settled, and that the conservative standard is crucial to maintaining public trust in nuclear energy.

Regardless of whether there is adequate scientific support for eliminating ALARA, safety advocates have argued that doing so could "undermine clinical standards" and reduce dose-tracking efforts, specifically for high-risk workers.[27]

Health experts have called the INL's assessment of radiation exposure data a "misstatement," and claim that the available data reveals only the lack of consensus among epidemiological studies and health physicists about lifetime doses.[28]

In July 2025, the Union of Concerned Scientists testified before the NRC that low-dose radiation had significant neurological and cardiovascular health impacts, and that "continued conservatism in radiation protection" was the best, safest approach for federal

regulators.[29]

Legal Challenges

Any final agency decisions to relax radiation protection standards, if they occur, will be the subject of vigorous litigation from public interest groups and nongovernmental organizations.

The Union of Concerned Scientists has called the Trump administration's efforts an "attack on science," and has committed to opposing the elimination of ALARA across federal agencies.[30] Notably, any litigation in this area could lead to significant delays in approvals of designs and licenses built around a post-ALARA framework.

Historically, changes to the radiation protection standards have led to significant public and political interest. For example, in the late 1980s and early 1990s, the NRC attempted to adopt a policy that would have exempted certain radioactive materials from regulation "when levels of radioactivity of nuclear materials are so low that they do not warrant the same regulatory controls to ensure proper protection of the public health and safety and the environment."[31]

The significant public reaction to this and a related low-level waste policy led the commission to place "a complete moratorium on implementation of the 1990 … policy statement."[32] In 1992, Congress went even further and revoked both policy statements in the Energy Policy Act.[33]

More recently, in 2021, the NRC denied a petition for rulemaking that requested the agency move away from LNT and ALARA.[34] There were 635 unique public comments submitted on this PRM.

Of those, 535 opposed the proposal to discontinue LNT, and 100 supported the proposal. At the end of its review, the NRC concluded that the scientific consensus continued to support LNT and ALARA.[35] Now, less than five years later, the DOE has taken the opposite approach, and the NRC appears poised to do the same.

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[1] E&E News, "DOE kills decades-old radiation safety standard" (Jan. 12, 2026), available at https://www.eenews.net/articles/doe-kills-decades-old-radiation-safety-standard/.

[2] U.S. Department of Energy, "Action: Approval to Eliminate Alara from All Department of Energy (DOE) Directives and Regulations" (Jan. 9, 2026).

[3] E&E News, "Nuclear Push tests Dems' red line on radiation safety" (Jan. 21, 2026), available at https://subscriber.politicopro.com/article/eenews/2026/01/21/nuclear-push-tests-dems-red-line-on-radiation-safety-00731642.

[4] U.S. Department of Energy Order 458.1, "Radiation Protection of the Public and the Environment" (Feb. 11, 2011); 10 C.F.R. 835. The NRC and the EPA are expected to follow the DOE's lead and issue revised regulations in the coming months.

[5] 10 C.F.R. § 835.2(a).

[6] Idaho National Laboratory, "Reevaluation of Radiation Protection Standards for Workers and the Public Based on Current Scientific Evidence," 6 (July 2025).

[7] Nuclear Regulatory Commission, "Linear No-Threshold Model and Standards for Protection Against Radiation," 86 F.R. 45923.

[8] Id.

[9] Id.

[10] U.S. Department of Energy Order 458.1, "Radiation Protection of the Public and the Environment" (Feb. 11, 2011); 10 C.F.R. 835.

[11] 10 C.F.R. § 835.2(a).

[12] U.S. Department of Energy, "Guide to Reducing Radiation Exposure to As Low As Reasonably Achievable (ALARA)" (March 13, 1980); 10 C.F.R. § 835.

[13] Nuclear Regulatory Commission, "Standards for Protection Against Radiation, Final Rule," 56 F.R. 23360 (1991).

[14] U.S. Department of Energy, "Department of Energy Announces Initial Selections for New Reactor Pilot Program" (Aug. 12, 2025), available at https://www.energy.gov/articles/department-energy-announces-initial-selections-new-reactor-pilot-program.

[15] K&L Gates, "President Trump Issues Sweeping Executive Orders Targeting Nuclear Regulation" (Jun. 5, 2025), available at https://www.klgates.com/President-Trump-Issues-Sweeping-Executive-Orders-Targeting-Nuclear-Regulation-6-5-2025.

[16] Nuclear Regulatory Commission, "Expectations for NRC Staff Involvement with Prospective NRC License Applicants Planning to Refer to DOE and DOW Authorization Processes" (Dec. 11, 2025).

[17] E.O. 14300, "Ordering the Reform of the Nuclear Regulatory Commission" (May 23, 2025).

[18] E.O. 14301, "Reforming Nuclear Reactor Testing at the Department of Energy" (May 23, 2025).

[19] U.S. Department of Energy, "Department of Energy Announces Initial Selections for New Reactor Pilot Program" (Aug. 12, 2025), available

at https://www.energy.gov/articles/department-energy-announces-initial-selections-new-reactor-pilot-program.

[20] Idaho National Laboratory, "Reevaluation of Radiation Protection Standards for Workers and the Public Based on Current Scientific Evidence," 34 (July 2025).

[21] Id. at v.

[22] Id. at 35.

[23] Id. at 35.

[24] Health Physics Society, "Stakeholder Support for Regulatory Harmonization and Expanded Nuclear Power: Outcomes of HPS/NCRP Open Forums," 3 (Jan. 14, 2026).

[25] The Breakthrough Institute, "The Current State of Radiation Protection in the United States" (Dec. 2, 2025), available at https://thebreakthrough.org/issues/nuclear-energy-innovation/the-current-state-of-radiation-protection-in-the-united-states.

[26] The Breakthrough Institute, "Drawing the Line: The Linear No-Threshold Model, and When are Doses Too Small to Matter?" (July 16, 2025).

[27] Health Physics Society, "Stakeholder Support for Regulatory Harmonization and Expanded Nuclear Power: Outcomes of HPS/NCRP Open Forums," 3 (Jan. 14, 2026).

[28] E&E News, "DOE Eliminates Eisenhower-Era Radiation Standard to Boost Nuclear Projects" (Jan. 15, 2026), available at https://subscriber.politicopro.com/article/eenews/2026/01/15/doe-eliminates-eisenhower-era-radiation-standard-to-boost-nuclear-projects-00729519.

[29] Union of Concerned Scientists, "UCS Perspectives on the Regulatory Application of LNT and ALARA" (July 16, 2025).

[30] Union of Concerned Scientists, "Will Politics Put More People's Health at Risk from Radiation Exposure?" (Nov. 5, 2025), available at https://blog.ucs.org/chanese-forte/will-politics-put-more-peoples-health-at-risk-from-radiation-exposure/.

[31] Nuclear Regulatory Commission, "Radioactive Waste Below Regulatory Concern; Policy Statement" (Oct. 27, 1986) (The maximum effective dose for the public in NRC's 1986 policy statement was "not [to] exceed a few millirem per year."); Nuclear Regulatory Commission, "NRC Withdraws Below Regulatory Concern Policy Statements" (Aug. 18, 1993).

[32] Nuclear Regulatory Commission, "NRC Withdraws Below Regulatory Concern Policy Statements" (Aug. 18, 1993).

[33] "Energy Policy Act of 1992," Pub. L. 102-486 (Oct. 24, 1992).

[34] Nuclear Regulatory Commission, "Linear No-Threshold Model and Standards for Protection Against Radiation," 86 F.R. 45923; 10 C.F.R. § 20.

[35] Nuclear Regulatory Commission, "Linear No-Threshold Model and Standards for Protection Against Radiation," 86 F.R. 45923.