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**EPN Comments on Reforming and Modernizing the NRC's Radiation Protection Framework**

Docket No.: NRC–2025–1140

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The Environmental Protection Network (EPN) harnesses the expertise of more than 800 former Environmental Protection Agency (EPA) career staff and confirmation-level appointees from Democratic and Republican administrations to provide the unique perspective of former regulators and scientists with decades of historical knowledge and subject matter expertise.

## Introduction

The Nuclear Regulatory Commission's (NRC) wholesale changes to its regulations are deeply flawed and need to be entirely redone or abandoned. NRC claims that this proposed rule will aid the development of the nuclear industry in the United States.[1] This argument is both unproven by any information provided in the preamble or regulatory analysis document. According to NRC, this rulemaking will save NRC, States, and the industry $10.5 million a year. The value of the electricity produced by the nuclear power industry is over $40 billion a year, and the nuclear decommissioning market is over $9 billion a year. $10.5 million is roughly .02% of the $49 billion value of just those two segments of the industry. The cost savings for industry is $9,531,000 in total. Those savings divided by the over 17,000 NRC and Agreement State licenses results in trivial cost savings of about $560 a licensee, which is hardly the kinds of savings that will usher in a nuclear renaissance in the United States.

More importantly, by weakening regulations, the NRC is handing nuclear opponents a crucial weapon to oppose nuclear expansion. People need to have faith in the safety of the nuclear industry and the NRC is saying that the industry needs weakened regulations to expand. This is not a way to build public trust.[2]

This rulemaking is also fatally flawed by its lack of reasoned analysis of the impacts that will result. Time and again, NRC takes an action that loosens environmental protections and provides no analysis of the kinds of situations that will benefit from the ability to increase pollution. There is also no analysis of the increased cost provided or the increased disease and death that will result. NRC needs to provide a real analysis of costs and benefits of its deregulatory action. NRC makes bold claims about the positive benefits of this action and how it will help the industry expand, but that claim is belied by the meager cost savings and the lack of any analysis of the increased pollution that will result both from individual sources and in aggregate.

NRC also needs to recognize that increased radiation exposure is a cost, not a benefit of its actions. Its Draft Regulatory Analysis appallingly claims increased worker and public exposure to radiation as a benefit of this action.[3] Yet somehow this "benefit" is never calculated and presented to the public. NRC needs to recognize that its job is to protect the public from radiation exposure and that increased worker and public exposure to radiation is a cost not a benefit of this rulemaking. The Draft Regulatory Analysis states:

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[1] *Reforming and Modernizing the NRC's Radiation Protection Framework*. 91 FR 43456 (July 15, 2026). Available at https://www.federalregister.gov/d/2026-14208.

[2] See for example, https://www.washingtonpost.com/opinions/2026/08/26/trump-cuts-nuclear-safety-could-hurt-new-innovation-campuses/.

[3] *Draft Regulatory Analysis for the Proposed Rule: Reforming and Modernizing the NRC's Radiation Protection Framework.* Nuclear Regulatory Commission. March 2026. Available at https://www.regulations.gov/document/NRC-2025-1140-0121.

"Benefits:

- Increased worker exposure to ionizing radiation allowed with potential stochastic health effects of unknown magnitude that is expected to be minimal.
- Increased public exposure to ionizing radiation allowed with potential stochastic health effects of unknown magnitude that is expected to be minimal.
- Increased effluent release allowed with potential stochastic health effects of unknown magnitude that is expected to be minimal."[4]

NRC needs to identify the cases where increased pollution and thus human exposure will result and provide actual data to justify why an "unknown magnitude" of health effects are expected to be "minimal." NRC should not go forward with this rulemaking until it can provide this analysis and present it for public review and comment. Failure to do so will render this action legally fatally flawed.

**Specific Instances Where NRC Analysis is Lacking or Non-Existent**

NRC should identify the problem, demonstrate the nexus, quantify the incremental benefit, consider less disruptive alternatives, and evaluate cumulative consequences before changing a radiation-protection system that affects far more than the construction of new reactors.

**I. Scientific Basis, Regulatory Necessity, and Cumulative Effects**

1. Incorporate the Journal of Radiological Protection (JRP) paper[5] as the scientific and policy foundation.
   - Submit the published paper into the docket and expressly incorporate it into the comments.
   - Use it as the foundation for the linear no-threshold (LNT), "as low as is reasonably achievable" (ALARA)/optimization, low-dose science, and science-policy discussion rather than reproducing that analysis throughout the submission.

2. "Is the Juice Worth the Squeeze?" — NRC has not adequately demonstrated that the incremental benefits justify wholesale revision.
   - For each major change, NRC should identify the actual problem, quantify its present burden, establish the incremental benefit of changing the regulation, identify implementation and transition costs, and compare the result with less disruptive alternatives.
   - The relevant comparison is not merely current regulation versus proposed rule; it should include realistic lower-cost alternatives capable of obtaining substantially the same benefit.

3. NRC must evaluate the cumulative and interactive effects of the approximately 20 simultaneous rulemakings.
   - Radiation protection, cleanup, low-level radioactive waste (LLW)/ greater-than-class C (GTCC) disposal, transportation, advanced-reactor licensing, the National Environmental Policy Act (NEPA), materials regulation, and other revisions interact technically and institutionally.

[4] Id.

[5] Jones, C. G. (2019). Review: The US Nuclear Regulatory Commission radiation protection policy and opportunities for the future. J. Radiol. Prot., 39, R51. https://doi.org/10.1088/1361-6498/ab1d75

- If NRC characterizes the effort as a "wholesale revision," its cumulative and interactive effects should be evaluated on a wholesale basis.
- Individual regulatory analyses should not assume that surrounding regulatory programs remain static while those programs are themselves being revised.

4. NRC has not demonstrated that the identified ALARA problems require rulemaking rather than guidance.
   - Excessive conservatism, inconsistent implementation, inspector expectations, and misunderstanding of "reasonably achievable" can potentially be addressed through a NUREG, Regulatory Guide, Commission policy, inspection guidance, enforcement policy, and explicit graded stopping criteria.
   - NRC should demonstrate why a guidance-first alternative is inadequate before eliminating ALARA requirements from the Code of Federal Regulations (CFR).

5. NRC's proposed graded dose-management system appears to replace rather than eliminate optimization.
   - If licensees must continue to calculate doses, establish controls, document compliance, and manage exposures below limits, NRC should explain why graded ALARA guidance could not accomplish substantially the same objective.
   - NRC should quantify the actual reduction in licensing or operational burden produced by changing the CFR.

**II. Nexus to New-Reactor Deployment**

6. NRC must demonstrate a causal nexus between each major radiation-protection change and advanced-reactor deployment.
   - Identify actual licensing delays, design constraints, construction delays, or applicant costs attributable to ALARA, public-dose limits, effluent controls, or related requirements.
   - Deregulation itself should not be assumed to constitute a reactor-deployment benefit.

7. NRC should distinguish pre-fuel-load design and construction from operational radiation protection.
   - Most reactor construction occurs before an operational radioactive source exists, although radiation-protection systems must be designed and reviewed before operation.
   - NRC should identify what portion of the design/licensing/construction critical path is materially constrained by occupational-dose, public-dose, ALARA, or routine-effluent requirements.

8. NRC should reconcile claims of safer advanced reactors with the asserted need for relaxed radiation-protection requirements.
   - Passive safety, smaller inventories/source terms, improved fuels, and reduced accident consequences should ordinarily make existing requirements easier to satisfy.
   - NRC should explain why safety improvements require weaker generally applicable radiation-protection criteria rather than simply facilitating compliance with existing criteria.

9. NRC has not demonstrated how relaxing routine effluent controls accelerates reactor design, licensing, or construction.

- Identify actual projects delayed or redesigned because of existing routine-effluent requirements and quantify the deployment benefit.
- Operational environmental controls should not be credited as construction benefits without a demonstrated causal relationship.

10. A reactor-deployment initiative does not automatically justify restructuring radiation protection for non-reactor activities.
    - Part 20 changes reach materials licensees, fuel-cycle facilities, medical and industrial uses, waste operations, transportation, decommissioning, and Agreement State programs.
    - NRC should independently justify those non-reactor consequences.

**III. Cleanup, Waste, and the Advanced-Reactor Back End**

11. NRC should distinguish inappropriate "cleanup to background" implementation from ALARA itself.
    - If decommissioning practice is producing unnecessarily low cleanup endpoints, NRC should consider explicit stopping criteria, revised NUREG guidance, cost-benefit criteria, and disciplined optimization rather than eliminating ALARA.
    - Proper optimization should account for worker risk, industrial hazards, transportation, waste generation, disposal impacts, and cost.

12. Cleanup reform and waste reform must be evaluated together.
    - Less or more aggressive remediation changes the quantity, activity, and characteristics of material requiring characterization, handling, transport, storage, and disposal.
    - NRC cannot independently evaluate ALARA/decommissioning changes while simultaneously changing the LLW/GTCC framework.

13. NRC must characterize the waste profiles of the advanced-reactor fleet it seeks to accelerate.
    - Light-water reactors (LWRs) and small modular reactors (SMRs), tristructural isotopic (TRISO)/graphite high-temperature gas-cooled reactors (HTGRs), sodium fast reactors, salt-cooled reactors, fuel-bearing molten-salt reactors, and microreactors generate fundamentally different spent-fuel and waste streams.
    - Characterization should include activity, radionuclide inventories, enrichment, burnup, decay heat, criticality, chemical/physical form, volume, mass, and likely disposition pathways.

14. NRC should not equate reduced waste mass or volume with reduced radiological or disposal burden.
    - National Academies reference cases demonstrate that dramatically smaller spent-fuel mass can retain comparable activity inventory.
    - A representative molten-salt case has roughly 4% of the pressurized water reactor (PWR) spent-fuel mass but approximately 72% of its 100-year activity.
    - Waste mass, volume, activity, hazard, decay heat, chemistry, and disposal complexity must be evaluated separately.

15. NRC is revising waste-related regulations before disposition pathways for several advanced-reactor waste forms are mature.

- NRC continues evaluating storage and disposal of High-Assay Low-Enriched Uranium (HALEU)/TRISO, metallic fuels, salts, graphite, sodium-associated fuels, and other advanced-reactor materials.
- Uncertainty in those pathways should be incorporated into cost-benefit and cumulative-effects analyses.

**IV. Specific Part 20 Public-Protection Issues**

16. NRC should retain the 2-mrem-in-any-one-hour unrestricted-area criterion absent a demonstrated burden and benefit from its removal.
    - The criterion is directly measurable and independently inspectable and is distinct from the 5-mrem/hour Radiation Area posting threshold.
    - NRC should explain the actual regulatory problem its deletion solves.

17. Deleting the 2-mrem/hour criterion conflicts with NRC's stated preference for objective, determinate radiation-protection requirements.
    - Eliminating a readily measurable external-field criterion increases dependence on occupancy assumptions, source configuration, modeling, and annual-dose calculations.
    - NRC should reconcile that result with its criticism of subjective ALARA implementation.

18. NRC should separately quantify the savings attributable to deleting the 2-mrem/hour criterion and evaluate it with related transportation changes.
    - Aggregate industry savings do not establish the benefit of this particular deletion.
    - NRC should provide the affected-licensee population, existing compliance cost, activities eliminated, and actual savings.
    - The analysis should also consider simultaneous package-certification changes affecting allowable external radiation levels for certain transported microreactors.

**V. EPA and Federal Environmental Interfaces**

19. NRC must account for independent EPA requirements when calculating benefits.
    - EPA's Part 190 standards and authorities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Safe Drinking Water Act (SDWA), Resource Conservation and Recovery Act (RCRA), Clean Air Act (CAA), and related programs are not changed by NRC's rulemaking.
    - NRC should not claim savings that cannot actually be realized because independent environmental requirements remain applicable.

20. NRC must evaluate ALARA removal against the EPA cleanup framework, including CERCLA, groundwater standards, and the NRC–EPA decommissioning Memorandum of Understanding (MOU).
    - Evaluate whether higher residual contamination could increase EPA consultation, create greater divergence between NRC license-termination and EPA cleanup endpoints, affect EPA's historical deferral to NRC, or reduce regulatory finality.

21. NRC must account for costs transferred to EPA, States, or future cleanup programs.

- Reduced NRC/licensee expenditure is not necessarily a societal benefit if it reappears as EPA Regional review, CERCLA work, state regulation, groundwater monitoring, environmental remediation, or future liability.

22. NRC and EPA should evaluate whether existing environmental radiation standards adequately address advanced-reactor fuel cycles and wastes.
    - Part 190 was developed around a substantially different uranium fuel cycle.
    - HALEU/TRISO, metallic fuels, molten salts, thorium/U-233 systems, recycle, and factory-returned microreactors warrant explicit interagency assessment before NRC removes existing margins of protection.

**VI. Wholesale Revision, Participation, and Implementation**

23. The compressed simultaneous rulemakings create a moving-target problem that impairs meaningful technical review and public participation.
    - Staff, Agreement States, EPA, licensees, professional organizations, Tribal governments, and the public are being asked to evaluate Rule A while assumptions embedded in Rules B, C, and D are simultaneously changing.
    - NRC should evaluate whether the schedule permits meaningful review of interconnected proposals.

24. NRC must evaluate cumulative institutional burden and opportunity cost.
    - The analysis should encompass NRC staff resources diverted from reactor licensing, aggregate Agreement State implementation and compatibility burdens, EPA Headquarters and Regional resources, state environmental programs, and other affected federal entities.
    - Costs shifted elsewhere in government do not disappear.

25. NRC should document interagency consultation and use the least disruptive regulatory instrument capable of solving each demonstrated problem.
    - NRC should disclose relevant EPA and other federal consultation concerning environmental releases, cleanup, groundwater, waste, and advanced-reactor impacts.
    - Where guidance can solve an implementation problem, use guidance; where a reactor-specific requirement causes a demonstrated bottleneck, fix that requirement; where science supports changing a numerical criterion, establish the technical basis and change it transparently.

**Linear No Threshold (LNT)**

NRC wants but cannot have it both ways with LNT in this rulemaking. Either it accepts, as it claims, the LNT as the basis for rulemaking or it doesn't. Since it claims that it does accept it, then that means all the increased radiation exposures it allows with the deregulatory action has the potential to impact public health. Those increases need to be acknowledged, analyzed, and quantified. If it doesn't actually accept LNT, then it needs to do more than the occasional handwaving and present its scientific analysis for comment and take comment on the scientifically supported alternative. Instead, the Draft Regulatory Analysis says:

> "The NRC recognizes that the quantitative estimation of health risk at very low doses presents longstanding scientific challenges. The NRC acknowledges that advances in radiobiology have

> identified mechanisms such as DNA damage response and repair, dose-rate effects, and adaptive cellular responses that complicate simple linear extrapolation. However, the NRC finds that no consensus-supported, regulation-ready alternative model to the LNT model exists at this time. In the absence of such a suitable replacement, the NRC has taken this opportunity to address the LNT model's inherent limitation by carefully examining its unintended impact on ALARA practices."[6]

LNT has survived as a regulatory practice around the world because it provides the best explanation for the danger presented by ionizing radiation. First, multiple studies have shown that a single alpha particle can cause damage to DNA that can lead to cancer.[7] While there are cellular mechanisms to repair DNA the NRC's simplistic analysis ignores the real world in which Americans live. As EPA noted in the radionuclide NESHAP rulemaking,[8] agencies protecting public health should consider the synergistic impact of all the other pollutants and artificial chemicals that the American public is exposed to. Yes, the body has DNA repair mechanisms, but those mechanisms are obviously both imperfect and have a lot of existing work to do from background radiation and all the other pollutants. Some of those pollutants may have specific synergistic interactions with radiation to increase risks of cancer developing. NRC acknowledges this, but then ignores its preamble on page 43464:

> "At present, there is no scientific consensus establishing a threshold below which stochastic health effects do not occur. As described in SECY–12–0064, as it relates to stochastic effects, **'It is unlikely there might be a threshold level of exposure below which biological response does not occur. Such a threshold could only occur if DNA repair processes were totally effective in that dose range or if a single radiation track were unable to produce an effect** [emphasis added]. The cellular processes such as apoptosis and cellular differentiation that can protect against later phases of tumorigenesis are judged to be efficient but can be bypassed; there is no reason to believe that those defenses act differently on spontaneous and radiation-induced tumors or have specific dose dependencies.""[9]

The NRC in its Preamble also notes:

> "This uncertainty is the main reason why it is generally impossible to determine, on epidemiological grounds alone, that there is, or is not, an increased risk of cancer associated with radiation exposures of the order of a few tens of mSv [1 mSv = 100 mrem] and below."[10]

But Americans do not live in a world where there is no radioactivity except for the pollution from NRC licensees. As it says on the EPA website: "All of us are exposed to radiation every day. These exposures include natural sources such as minerals in the ground, and man-made sources such as medical x-rays. According to the National Council on Radiation Protection and Measurements (NCRP), the average annual radiation dose per person in the U.S. is 6.2 millisieverts (620 millirem)."[11] This means if there is a threshold, it has to exist somewhere between a few tens of mSv and 6.2 mSv. This level of background radiation means

[6] Draft Regulatory Analysis for the Proposed Rule: Reforming and Modernizing the NRC's Radiation Protection Framework. Nuclear Regulatory Commission. March 2026. Page 24.
[7] Eg. https://pmc.ncbi.nlm.nih.gov/articles/PMC5282495/.
[8] 54 FR 51654.
[9] 91 FR 43456. Page 43464.
[10] Id. Page 43462.
[11] https://www.epa.gov/radiation/radiation-sources-and-doses.

that NRC's claimed concern that they are being overly protective by assuming a risk down to zero, is not an issue. In the real world there is not zero. We are all exposed to radiation (and other carcinogens) every day of our lives. If NRC has evidence of such a threshold then it should present it for public and scientific review and comment. Since that information seems not to exist, **NRC must live with the implication of its own policy and science and recognize and quantify the increases in radioactive pollution which this rulemaking allows and the death and disease that will result**.

It is worth noting that EPA, like all other public health agencies around the world, uses the LNT as the initial assumption for all carcinogens. NRC's effort to make radiation a privileged pollutant that gets to expose the public to greater health risks than other pollutants.

Finally, NRC is clearly concerned that LNT has led to too much protection of the public. For example, in the preamble on page 43462 it says, "In contrast, over-conservatism in the application of the LNT model at very low doses combined with the potential for enforcement action for noncompliance renders implementation of the model susceptible to rote attempts at dose reduction rather than an approach tempered by a measured consideration of the reasonableness of those reductions."[12] Once again, NRC makes statements for which it provides no evidence in the record. If there are such instances that demonstrate the harmful effects of the use of LNT, NRC needs to present them as part of the record, based on the existing record there cannot be many instances since this entire rulemaking will reduce costs to industry by only $9 million a year.

**NRC's Unjustified Increase in Radioactive Air Pollution**

NRC proposes increasing the 10 mrem air pollution standard to 25 mrem. Once again NRC provides no actual analysis of the impacts in cost savings and lives lost. This action is inconsistent with its agreement with EPA at the time the standard was set. When the radionuclide NESHAP was promulgated, NRC agreed to set the air emissions at 10 mrem consistent with EPA's radionuclide NESHAPs. "In the context of the CAA, the NRC has historically worked with the U.S. Environmental Protection Agency (EPA) to develop effluent standards that are sufficiently low to support EPA determinations and to ensure that NRC licensees are not subjected to redundant regulation from multiple agencies."[13]

In its rulemaking on the Radionuclide NESHAP[14] EPA considered 25 mrem and specifically rejected it as too high. The standard needed to be safe with an ample margin of safety which was defined as approximately 1x 10-4 which EPA stretched to 3 x 10-4 for DOE facilities resulting in a 10 mrem standard. NRC now wants to make radiation a privileged pollutant where for no justification the public is expected to accept higher risks. As NRC acknowledges the new risk is 8.7 x 10-4, which is not approximately 1 in 10,000 but approximately 1 in 1,000. As EPA noted in its rulemaking, children have higher risks from pollutants as they develop. In fact, they get 60% of the lifetime risk in their first 19 years.[15] It is not unusual for children to grow up living in the same place and thus being exposed to the same level of pollution from 0 to 19. In which case their personal risk would be 60% of 8.7 x 10-4 or 5.22 x 10-4, which also fails to meet the standard of safe with an ample margin of safety approximately 1 x 10-4.

NRC tries to cloud the issue with discussion of lifetime cancer risk which is irrelevant to the protection of public health. NRC might as well point out that lifetime mortality risk is 100%. The issue in environmental

[12] 91 FR 43456. Page 43462.
[13] Id. Page 43470.
[14] 54 FR 51654.
[15] 54 FR 51662.

protection is always what is the additional risk businesses are allowed to impose involuntarily on the public so they can make more money. The whole framework of environmental and public health protection is based on the recognition of risks that cannot be eliminated and those that are imposed on the public need to be regulated.

In addition, NRC talks on the one hand like these changes are significant reductions in the regulatory burden on business but that is inconsistent with NRC's analysis which shows virtually no costs savings (approximately $560) across more than 17,000 licenses and amazingly assumes that there is no increase in radioactive pollution and resulting health impacts. NRC notes that studies done in 1989 showed that no facility exceeded 10 mrem a year. NRC cannot rely on a 37-year-old study of industrial practice as accurate on current day emissions. Even if we take it for granted as accurate today then why change the standard? There is no reason to increase potential risks if it would not result in cost savings for industry. NRC obviously believes that there are facilities that would increase their emissions by as much as 250% but does not provide the public with the number of such facilities (or even a single example of one), where they are located and how many individuals will face increased cancer risk to save these facilities money on pollution control. If no facilities will increase emissions what is the point of changing a successful 37-year-old standard? NRC must be upfront with the public and lay out an analysis which shows the real costs and benefits of this rule change. If all the cost savings come from reporting burdens then NRC can simplify their reporting requirements but leave the public health protections in place.

What's worse is NRC is not just creating a new standard, they are allowing licensees to pick the new 25 mrem standard if they want it. NRC provides no process for the review of this individualized change in standard. No company would take the trouble of asking for a new relaxed standard unless they planned to increase emissions above the 10 mrem level. NRC in this rulemaking does not provide a process for informing the public of such an increase in radioactive cancer risk in their community. NRC does not provide the public with any rights in the process of approving the site specific standard. This is unacceptable and NRC needs to provide a justification for removing the public from a process that obviously impacts the health of their communities.

**What's Reasonable**

This NRC rulemaking is full of the use of the word "reasonable." Unfortunately, NRC has provided no clear definition of what they mean by the word. NRC has decided that it is "reconsidering" its use of ALARA because:

> "In summary, as directed by E.O. 14300 section 5(b), the NRC is reconsidering its use of the LNT model and its use of the ALARA principle. … Therefore, the NRC is proposing changes to how the LNT model is implemented in its regulations and guidance. These changes, as proposed in this rulemaking, are intended to minimize subjectivity regarding radiation protection at low doses and to make sure that the required management of dose below regulatory dose limits is subject to a **more objective reasonableness standard**"(emphasis added).[16]

Since ALARA stands for "As Low As Reasonably Achievable," it is unclear why "reasonably achievable" which is designed to consider both costs and benefits does not work but "reasonableness" is objective and does. Of course, reasonableness is not objective at all. What the manager of a regulated facility and what a

[16] 91 FR 43456. Page 43464.

member of the public living near that facility thinks is a "reasonable" level of environmental protection is not likely to be the same.

NRC does not clearly explain or provide examples of what the real world problem with ALARA is. The proposal states, "As observed in E.O. 14300, the ALARA principle as used in the NRC's regulations has lost its intended focus on reasonableness. Instead, as a practical matter, its unbalanced application may very well contribute to more societal harm than the potential harm from the extremely low levels of radiation typical of NRC-licensed activities by hindering the consideration of nuclear technology for energy production and other uses."[17] How exactly does this happen? NRC does not provide a single example of this. NRC's analysis is that this rulemaking in total will result in $10 million in cost savings annually? Is $10 million per year in costs really the difference between increased use of nuclear energy in the US? It seems unlikely. Since the general public has never heard of ALARA it seems extremely unlikely that ending its use will bring a widespread desire for more nuclear power plants. Once again, NRC's conclusion is inconsistent with its own analysis.

Or, in another example, page 43458 says, "In addition, the proposed changes would support the safe use and deployment of nuclear technologies while continuing to maintain **reasonable assurance** [emphasis added] of adequate protection of individuals and are founded on a holistic consideration of the NRC's regulatory experience and the current state of science using a weight of scientific evidence decision-making approach."[18] Why is reasonable too unclear for industry but reasonable is supposed to provide the public with assurance? NRC needs to provide a clear explanation of what reasonable assurance means when combined with a "weight of scientific evidence decision-making approach" and what that means in the real world. Does it result in higher or lower levels of pollution?

It is also worth noting that an Executive Order is not a "get out of jail free card" that substitutes for a reasoned rulemaking under the Administrative Procedures Act (APA). NRC still needs to provide for the public a clear description of the changes it is making and their real world impact by providing an analysis which clearly lays out the costs and benefits and allowing the public to comment on it. (And we note that increased pollution is a cost not a benefit.) If it were, the APA would be a dead letter as an Administration just writes a new Executive Order for each rule it wants to promulgate.

**Dose Variances**

In this rulemaking NRC says it will enable the optional use of modern dose modeling/calculation methods. According to the Draft Regulatory Analysis:

> "ANSI/ANS-6.1.1-2020, one of the alternative dosimetry methods the proposed rule incorporates, **generally results in about 30% lower radiation dose for gamma and neutron radiation of a given energy** [emphasis added]**.**Meaning that the expected radiation field from a particular source (i.e., fluence) would require less shielding to achieve a given dose, when compared to the previous version of this standard which is currently referenced in NRC guidance. There are many factors that contribute to a radiation shield design (e.g., shape, size, material, desired dose reduction, characteristics of incident radiation etc.) therefore, it is not possible to conduct a meaningful cost

[17] Id. Page 43462.
[18] Id. Page 43458.

analysis that applies broadly. However, the general impact of generically approving the use of this standard is expected to result in direct cost savings for licensees."[19]

The use of alternative dosimetry just allows increased exposure to the public in this case an over 42% increase in the total radiation expected. NRC owes a reasoned explanation of the real world differences in exposure that would be caused by the different methods and the process it would go through to approve "alternative methods" and how that process would provide the affected public from a source using an alternative does methodology. NRC seems to not recognize that any such request for a change would result in increased public exposure—otherwise why would a source go to the trouble?

**Conclusion**

In conclusion, for all the reasons listed above, NRC's rulemaking is deeply flawed and requires a much better and specific analysis of the real world impacts of each of the many changes the NRC is proposing. The public is legally entitled to an opportunity to comment on the new analysis. As a better option, NRC can abandon this rulemaking which will increase radioactive pollution and provide opponents of nuclear power with a clear admission from the NRC that nuclear power is not safe under the existing regulatory scheme and needs weakened standards that it can comply with.

[19] Draft Regulatory Analysis for the Proposed Rule: Reforming and Modernizing the NRC's Radiation Protection Framework. Nuclear Regulatory Commission. March 2026. Pages 22-23.