Oregon Department of **ENERGY**

Oregon Hanford Cleanup Board

NRC Rulemaking and Potential Hanford Impacts

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Leading Oregon to a safe, equitable, clean, and sustainable energy future.

Our Mission

The Oregon Department of Energy helps Oregonians make informed decisions and maintain a resilient and affordable energy system. We advance solutions to shape an equitable clean energy transition, protect the environment and public health, and responsibly balance energy needs and impacts for current and future generations.

What We Do

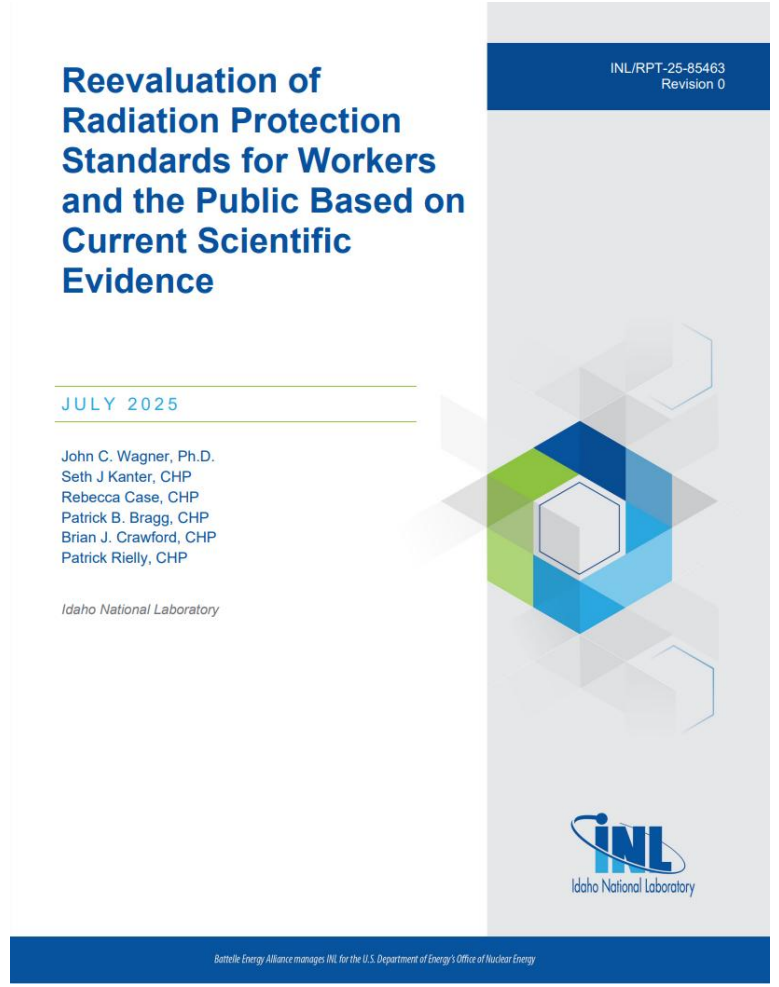
On behalf of Oregonians across the state, the Oregon Department of Energy achieves its mission by providing:

- A Central Repository of Energy Data, Information, and Analysis
- A Venue for Problem-Solving Oregon's Energy Challenges
- Energy Education and Technical Assistance
- Regulation and Oversight
- Energy Programs and Activities

NRC Rule Changes

ALARA, LNT, and EOs OH MY!

- ALARA: As Low As *Reasonably* Achievable encourages reduction in doses, but at what cost?
- LNT: Linear No Threshold posits there is a linear relationship between radiation dose and risk starting at 0.
- May 23 2025: EO14300, Ordering reform NRC, and EO14303, "Restoring Gold Standard Science." Explicitly directed federal agencies to "reconsider reliance on the linear no-threshold (LNT) model" and to discard "overly precautionary assumptions."



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NRC Compatibility Category

Guides Agreement States on how their own regulations should align with NRC.

Dose rates are Category “A” but the Tri-Party Agreement provides one of the rare “legal agreement” exceptions.

ALARA only is “C”

Category A – Basic Radiation Protection Standards

- No State Flexibility (Like Dose Standards)

Category B – Transboundary Implications

- No State Flexibility

Category C – Essential Objectives

- Some State Flexibility

Category D – Not Required for Compatibility

- Broad State Leeway

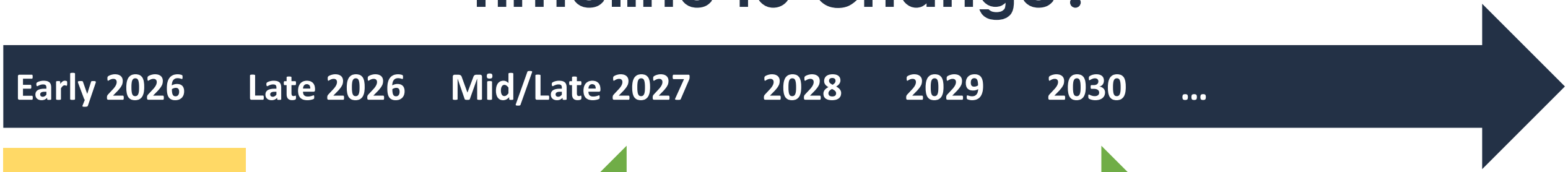
Health & Safety (H&S) – Particular Health and Safety Significance

- Broad State Leeway

NRC Reserved (NRC) – Exclusive NRC Authority

- Not a Chance (Reactors)

Timeline to Change?



NRC Notice of Potential Rulemaking 2/26?

Starts *90 Day* Comment Period

Draft Final Rule 11/26

Final Rule published in F.R.

Agreement State Adoption *3 years*

Federal Harmonization

DOE & OHSA immediately

DOT on 2-year cycle 2029

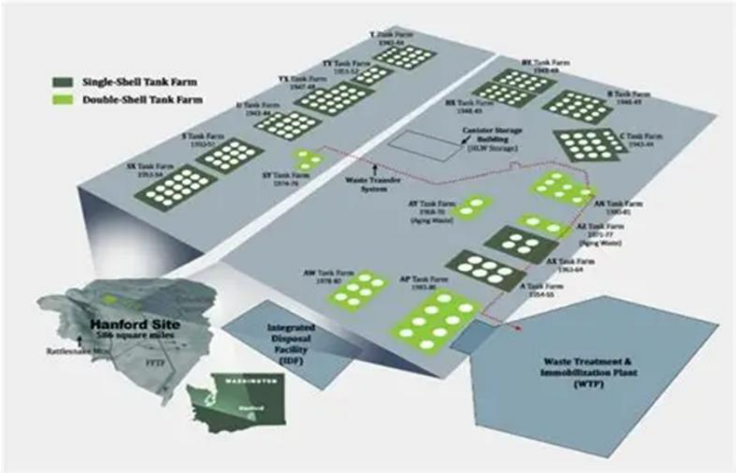
The Executive orders mandated that the NRC take an aggressive timeline in developing these rules.

EPA is much harder to predict. May align or find that dose limit compliance does not equate to CERCLA liability. RCRA also uses risk rather than dose rate. Not to mention various water and air standards.

Potential Short-Term Hanford Impacts

- The most immediate effect would be on worker protection rules.
- Current Records of Decision (ROD) would proceed as normal.
- Current design processes DFHLW and cocooning most likely not worth proactively changing.

- Future Tank Farm Closure, WIR Criterion Decisions and future RODs are unlikely to proceed without both EPA and Washington State alignment regarding CERCLA and RCRA.



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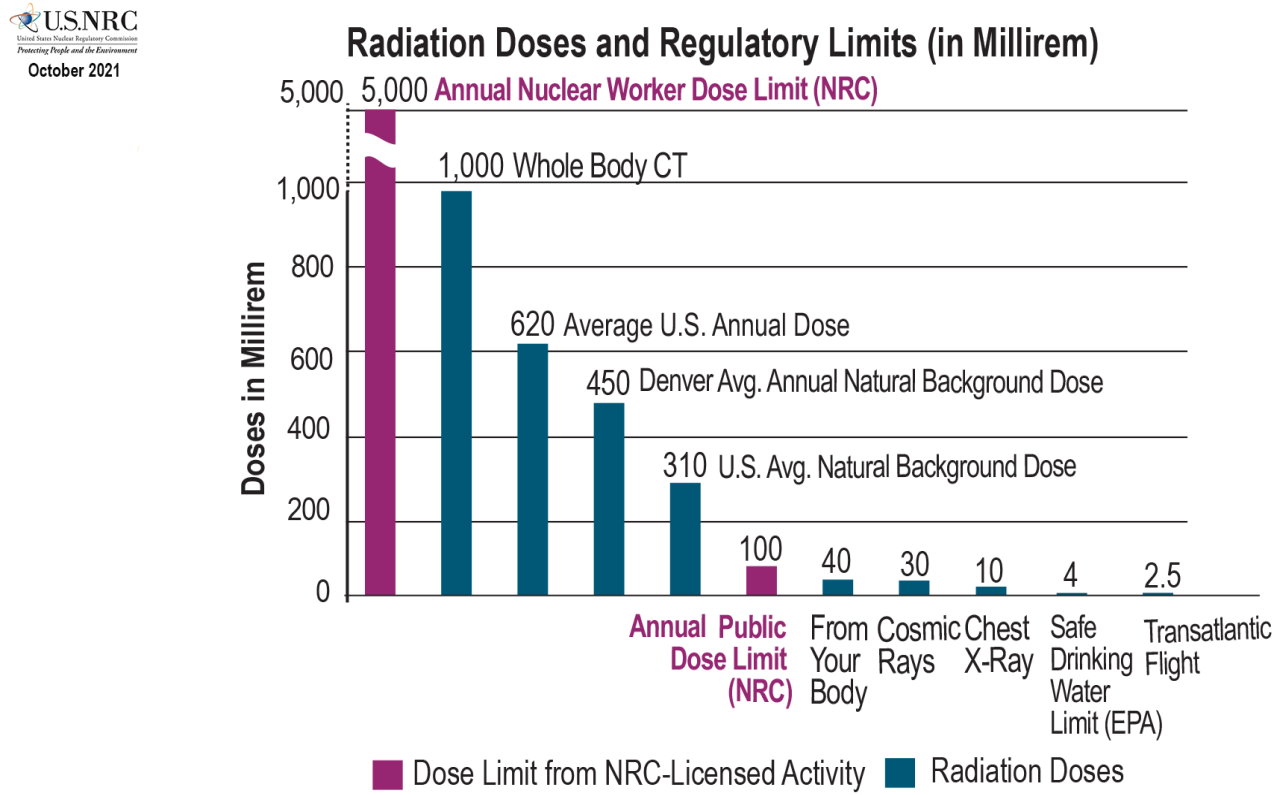
How Does Hanford Regulate Occupational Dose?

- 10 CFR 835 (NRC)
  - 5 rem radiological worker limit
- Hanford Site Radiological Control Manual (HSRCM)
  - Hanford Administrative Control Limit (varies)
- DOE Order 458.1
  - Protection of Public 100 mrem



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Soil Clean-Up Levels are Different

- Tri-Party Agreement
- Washington Administrative Code (WAC) 173-340 Model Toxics Control Act (MTCA)
  - Excess cancer death risk 1 in 1000000 standard or 1/100000 in inner (Industrial) areas (200)
- CERCLA Superfund
  - EPA Federal Guidance generally 15mrem/year above background
  - Other ARARs

100mSv=10rem
1 excess cancer death in 100

In linear relationship then *100mrem* excess cancer death risk 1 in 10,000

And 1mrem is 1 in 1,000,000

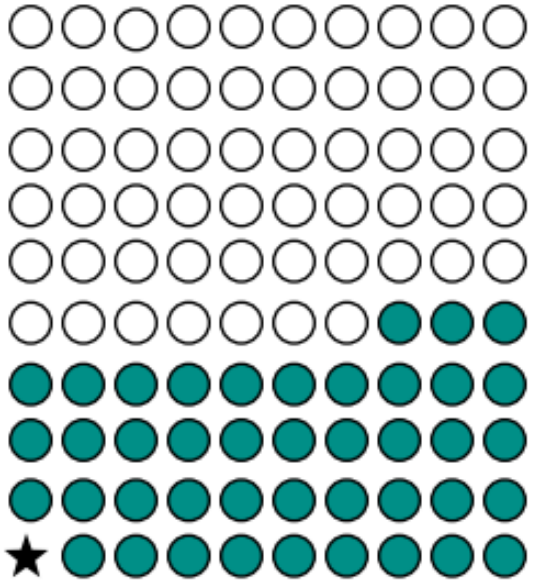

Figure 2. In a lifetime, approximately 42 (solid circles) of 100 people will be diagnosed with cancer[2] from causes unrelated to radiation. The calculations in this report suggest approximately one cancer (star) in 100 people could result from a single exposure 100 mSv of low-LET radiation.

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https://nap.nationalacademies.org/resource/11340/beir_vii_final.pdf

July NRC meeting and INL Report Releases

Several industry groups and the INL advocate raising limits

Idaho National Labs Report echoed by several presenters at July 17th NRC meeting with dissenting presentations. There are both supporters and detractors of the INL paper.

Category	Current Limit / Standard	Proposed Limit (INL 2025)
Public Dose Limit	100 mrem/yr (1 mSv/yr)(DOE Order 458.1)	500 mrem/yr (5 mSv/yr)(Proposed Federal Standard)
Occupational (Worker) Limit	5,000 mrem/yr (50 mSv/yr)(10 CFR 835)	5,000 mrem/yr With option to raise to 10,000 mrem
ALARA Requirement	Mandatory	Voluntary / Removed (Best Practice)
Cleanup Standard (Soil)	*15* - 25 mrem/yr (Federal) *1×10−6 Risk (State/MTCA)*	100 mrem/yr (Minimum Cleanup Goal)
Drinking Water (MCL)	4 mrem/yr(Beta/Gamma)(EPA Safe Drinking Water Act)	20 mrem/yr (Derived Concentration Standard)
Inadvertent Intruder	500 mrem/yr (Basis for 10 CFR 61 Class C)	1,000 - 5,000 mrem(One-time Acute Dose)
Air Release NESHAPS	10 mrem/year (40 CFR 61.92)	50 mrem/yr (Proportional 5X increase)

Terminating Current Does Rates

- The DOE has long argued that cleaning up Hanford to 15 mrem is prohibitively expensive & technically difficult.
- A unified generic federal 5x increase in dose rate suggested in INL Report Appendix, would *eventually* force WA State to defend its more restrictive Tri-Party Agreement requirements.
- DOE may be incentivized to request waivers to clean-up or other legal measures.

Terminator 2 released in 1991 before dose rates were lowered to 100 mrem and Hanford published its tanks watch list per the Wyden Amendment

AI used to compile this image

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Potential Oregon Impacts

The Columbia River is a vital waterway supporting both recreational, economic, fisheries, and utility (power and water) demand.

If or when new groundwater standards are adopted, what will that mean for the contamination entering the Columbia River and public perception?

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Thank you!

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https://www.oregon.gov/energy/safety-resiliency/Pages/OHCB-Meetings.aspx