POLICY ISSUE
NOTATION VOTE

RESPONSE SHEET

TO: Brooke P. Clark, Secretary

FROM: Commissioner Wright

SUBJECT: SECY-23-0055: Options for Licensing Emerging Technologies Used for Remediation of Mine Waste

Approved X **Disapproved** X **Abstain** ____ **Not Participating** ____

COMMENTS: **Below** ____ **Attached** X **None** ____

David A. Wright

Digitally signed by David A. Wright
Date: 2023.07.21 15:53:13 -04'00'

Signature

Entered in STAR

Yes X

No ____

Commissioner Wright's Comments on SECY-23-0055,
"Options for Licensing Emerging Technologies Used for Remediation of Mine Waste"

I'd like to express my thanks to the NRC staff for their detailed analysis on this important topic. I recognize that this is a multifaceted issue, and the staff has done a good job explaining the background and rationale for the agency's past positions.

The Commission's most important job is to faithfully execute its safety mission: to provide reasonable assurance of adequate protection of public health and safety; to promote the common defense and security; and to protect the environment. Mine remediation falls squarely within this mission. It is a significant matter of public safety and environmental protection, which is why I think it is important to first recognize the status quo that we are addressing.

Today, there are thousands of abandoned uranium mines, particularly in the Western United States.[1] These mines pose significant risks, both in terms of radiological health impacts and the physical dangers associated with these structures. This is not a hypothetical hazard that *might* occur in the future. This is a real hazard that is affecting people's day-to-day lives right now.[2] Every day we wait is another day people are exposed to additional risk. That's why remediation and reclamation of these sites is a national priority and it's why the enormous task of addressing these legacy mining operations requires us to take a hard look at past practices to examine whether they continue to serve the public interest.

In my opinion, reducing the volume and mass of mine wastes isn't just practical, it's potentially transformative. New technologies have the potential to address legacy sites and improve safety by drastically reducing public exposure to radon and other radioactive constituents, *without* the introduction of new hazardous materials. Less radiological waste results in less risk to the public and less material that must be managed, transported, and disposed of.[3] The reduction in the physical amount of waste would mean fewer shipments of waste and therefore fewer potential accidents, spills, and environmental damage.

Accordingly, I approve Option 2B, which would license emerging technologies used for mine waste remediation under the source material framework in 10 CFR Part 40, via a service

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[1] The Department of Energy estimates approximately 4,225 abandoned defense-related uranium mines alone. U.S. Department of Energy, Defense-Related Uranium Mines, Report to Congress, August 2014, at 3.

[2] For example, in one USGS study, over sixty percent of the sites studied had one or more chemical constituents that exceeded aquatic life and drinking-water-quality standards. Beisner, K.R., Marston, T.M., Naftz, D.L., Snyder, Terry, and Freeman, M.L., 2010, *Assessment of nonpoint source chemical loading potential to watersheds containing uranium waste dumps and human health hazards associated with uranium exploration and mining, Red, White, and Fry Canyons, southeastern Utah, 2007*, U.S. Geological Survey Scientific Investigations Report 2010-5108.

[3] U.S. Department of Energy, Defense-Related Uranium Mines, Report to Congress, August 2014, at 15.

provider license. Using this framework balances the urgency of this issue with the need for predictability for applicants and licensees. I understand the staff's concerns about using the service provider framework; however, I am confident that appropriate license conditions, along with our robust enforcement framework, will provide reasonable assurance of safe operations and will ensure compliance both during and after remediation activities.

The staff raises the important question of whether the regulatory definition of "ore" should be contained in guidance or regulation. My position is that the NRC staff should move forward with an update to the definition of "ore" through guidance. Given that the current definition of ore, for the purposes of feed material for licensed mills, is defined in guidance, I think an interpretive rule provides the appropriate level of flexibility, as well as expediency, during the implementation of this framework for emerging remediation technologies.[4] During the development of this guidance, NRC staff should seek stakeholder input and should attempt to align NRC definitions with plain English and/or terms of art used in other regulations and the mining industry. The staff should evaluate the definition of "tailings," "wastes," "processed," and the "nuclear fuel cycle" in the context of mine remediation.

Again, I thank the NRC staff for their work on this complex issue, and I look forward to further developments in this area.

[4] I note that for decommissioning sites, the NRC appears to have allowed remediation techniques, such as soil washing, without classifying the clean soil as 11.e(2) byproduct material.