**Written Statement of Jonathan Edwards**
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**Office of Air and Radiation**
**U.S. Environmental Protection Agency**
**Before the**
**Subcommittee on the Interior**
**Committee on Oversight and Government Reform**
**U.S. House of Representatives**
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Good morning, Chairman Lummis, Ranking Member Lawrence and members of the Subcommittee. My name is Jonathan Edwards. I am the Acting Director of the Office of Radiation and Indoor Air, in the Office of Air and Radiation at the U.S. Environmental Protection Agency. I am very pleased to be here today to discuss the EPA's rulemaking to protect groundwater at in-situ uranium recovery, or ISR, facilities.

## UMTRCA Standards (40 CFR Part 192)

The EPA's in-situ uranium recovery rule is being developed under the authority of the Uranium Mill Tailings Radiation Control Act of 1978, or UMTRCA. The EPA's statutory role is to establish standards of general application. Standards of general application developed by EPA under UMTRCA are then implemented and enforced through licensing criteria developed by the U.S. Nuclear Regulatory Commission, and by the NRC's Agreement States. The

EPA issued the initial standards, found at 40 CFR Part 192, Subparts D and E, in 1983.

The statute requires the EPA's standards to provide protections from both radiological and non-radiological hazards.[1] Further, the statute specifies that the protections addressing non-radiological hazards must be consistent with the standards issued by the EPA under the Resource Conservation and Recovery Act, or RCRA, to address chemically hazardous wastes.

**In-situ Recovery (ISR)**

At the time the statute was passed, conventional milling was the dominant method of uranium production. Conventional milling involves the mining of ore from underground or open-pit mines. The ore is then crushed and the uranium extracted through the application of chemicals at off-site facilities. The wastes are primarily solid materials that are placed in permanent impoundments and will remain under long-term stewardship.

[1] Atomic Energy Act, Section 275:
b.(1) As soon as practicable, but not later than October 31, 1982, the Administrator shall, by rule, propose, and within 11 months thereafter promulgate in final form, standards of general application for the protection of the public health, safety, and the environment from radiological and nonradiological hazards associated with the processing and with the possession, transfer, and disposal of byproduct material, as defined in section 11e.(2) of this Act, at sites at which ores are processed primarily for their source material content or which are used for the disposal of such byproduct material.
b.(2) Such generally applicable standards promulgated pursuant to this subsection for nonradiological hazards shall provide for the protection of human health and the environment consistent with the standards required under subtitle C of [RCRA], as amended, which are applicable to such hazards.

Over the past several decades, in-situ recovery has replaced conventional milling as the most widely-used form of uranium recovery in the United States. ISR can be an effective method when the uranium ore body is located within a ground-water aquifer. ISR involves injection of fluids into an ore body to mobilize the uranium, which is then pumped to the surface and the uranium recovered for further processing. ISR sites do not remain under long-term stewardship after the license is terminated.

The NRC determined that ISR is an activity subject to the statute and has required operators to conduct ground-water restoration before the license can be terminated. However, there are no rules specific to ISR sites, so the NRC has been implementing the program through guidance and license conditions.

In 2006, the Commission approved initiation of a rulemaking effort tailored to ground-water protection at ISR sites and directed that the NRC staff should seek to work closely with the EPA. In 2010, the EPA and the NRC agreed that, consistent with the statute, the EPA should develop general standards to address ISR sites, with the NRC subsequently developing specific licensing and implementation criteria.

**2015 Proposed Rule**

The EPA proposed to amend 40 CFR Part 192 in January 2015. The proposal addressed ground-water monitoring during all phases of ISR activities, but emphasized pre-operational monitoring to establish baseline conditions and post-restoration monitoring to demonstrate ground-water stability. These requirements were intended to ensure that ground-water restoration goals are set appropriately and provide confidence that the restored ground-water quality meets ground-water protection standards and will remain stable, such that ground-water quality will not degrade over time as a result of ISR activities. Preserving water quality becomes more important as ground-water resources come under greater stress.

We held four public hearings to obtain comment from affected stakeholders and communities. In addition, we extended the comment period and provided additional time to allow stakeholders to collect and provide data that they believed was important for us to consider.

The EPA received significant public comment on the proposed rule and has been working to evaluate this new information. We have also been open to meeting with stakeholders and will continue to do so. For example, in February 2016, we participated in an Environmental Roundtable hosted by the Small Business Administration.

The EPA appreciates the time and effort of all interested stakeholders to provide this valuable input. We are taking great care to fully evaluate the information and views we have received on the proposed rule. We will issue a Response to Comments document with the final rule in which we will respond to the comments received during the public comment period. We anticipate issuing the final rule later this year.

The EPA consulted with the NRC prior to issuing the proposed rule. As the Committee is aware, the NRC has raised issues related to certain aspects of the proposed rule. We are working with the NRC to resolve these issues for the final rule. We look forward to working with the NRC once the rule becomes final and the NRC's implementing requirements are developed.

**Conclusion**

This concludes my statement. I will be glad to answer any questions you may have. Thank you.

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Jonathan Edwards became Acting Director of the US Environmental Protection Agency's Office of Radiation and Indoor Air (ORIA) in April 2016. Prior to that he served as Director of the Radiation Protection Division in ORIA, beginning in December 2008. As Division Director, Jon was responsible for several programs including EPA's radiological emergency response program, environmental oversight of the US Department of Energy's deep geological repository known as the Waste Isolation Pilot Plant near Carlsbad, NM, scientific and technical radiation risk assessments, and other radiation protection activities and programs.

Mr. Edwards graduated from the US Naval Academy in Annapolis, MD, in 1985, completed two years of post-graduate nuclear engineering instruction and training, and served on the fast attack submarine USS SPADEFISH (SSN-668) as Main Propulsion Assistant and Assistant Engineer.

Upon leaving the Navy in 1993, Jon began work with the EPA as a health physicist in the radiation program, going on to work with the Office of Science Policy in the EPA Office of Research and Development. In early 2003, at about the time of the creation of the US Department of Homeland Security, Jon served in the Administrator's Office (AO) working on homeland security issues. Jon served with the AO until his assignment as Director, Radiation Protection Division.