WRITTEN TESTIMONY OF

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Before the U.S. House Committee on Energy and Commerce — Subcommittee on Environment

Hearing on "Trash to Treasure: Examining Legislation to Support Domestic Critical Mineral Recovery and Recycling"

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SUMMARY OF MAJOR POINTS

- DISA Technologies holds the first and only license ever issued by the U.S. Nuclear Regulatory Commission (NRC) to remediate and recycle abandoned uranium mine (AUM) waste.
- Thousands of abandoned uranium mine sites are scattered across the American West — a majority of the sites are on federal land, many on Tribal land. On the Navajo Nation alone, there are 523 such mines, an estimated 85 percent of homes are contaminated, and communities have faced elevated rates of cancer and kidney disease for generations.
- DISA's High-Pressure Slurry Ablation (HPSA) is a mechanical process that cleans up this waste and recovers critical minerals in the same step — removing up to 98 percent of uranium contamination, eliminating leachability, and cutting disposal volume by up to roughly 80 percent, at 60 to 70 percent less cost than hauling everything away.
- The technology is proven. The U.S. Environmental Protection Agency's (EPA) own treatability study on three Navajo Nation sites in Arizona and New Mexico documented greater than 90 percent reduction in uranium and radium-226; Idaho National Laboratory independently verified it; and the NRC issued DISA's license with a Finding of No Significant Impact.
- DISA's process is conducted safely. DISA utilizes trained radiation workers, controlled work zones, continuous monitoring, and water and environmental safeguards — the same rigor applied at Superfund and NRC-licensed sites.
- This same waste rock holds meaningful quantities of recoverable uranium — potentially hundreds of millions of pounds — strengthening the domestic supply of uranium and reducing reliance on China and Russia for this critical mineral.
- The obstacle is the legal framework, not the technology. Federal law and regulations are built to "treat and dispose," not "treat and recover": there is no recognition of or incentive for recovery, no streamlined pathway for already-validated technology, and no lead agency coordinating cleanup. Instead, we face layers of interagency red tape that are preventing beneficial environmental cleanup.
- DISA supports the legislation being considered before the Subcommittee — especially the Legacy Mine Cleanup Act (H.R. 3713), the CHARM Act, and the EMRTAI Act — and recommends recognizing resource recovery in remedy decisions, a streamlined pathway for proven technology, and clear interagency coordination, none of which requires weakening any health-protective standard.
- With a framework that keeps pace with advancements in technology, the United States can protect public health, restore our land, strengthen its critical-mineral supply, and save taxpayers money — all at once.

Introduction

Chairman Palmer, Ranking Member Tonko, Chairman Guthrie, Ranking Member Pallone, and distinguished members of the Subcommittee, thank you for the opportunity to testify on legislation to strengthen domestic critical mineral recovery and recycling. My name is Greyson Buckingham, and I am the co-founder, President, and Chief Executive Officer of DISA Technologies.

DISA is a veteran-led mineral-liberation and environmental-remediation company founded in 2018 and headquartered in Casper, Wyoming, with a satellite office in Denver, Colorado. We have raised more than $80 million in private capital, employ 75 people, hold 12 domestic and foreign patents, have 15 pending U.S. and international patent applications and operate commercial processing units globally. Key investors include Constellation Energy, the largest producer of nuclear energy in the United States; BHP, the largest mining company in the world; as well as Evok Innovations, Valor Equity Partners, Galvanize, and Halliburton Labs. Our team includes nationally recognized experts in environmental and regulatory compliance, geology and mineral resources, and nuclear regulation — including a former Commissioner of the U.S. Nuclear Regulatory Commission (NRC) on our board.

DISA holds the first and only license ever issued by the NRC to remediate and recycle abandoned uranium mine waste. The legislation before the Subcommittee — and the broader question of how to align the U.S. Environmental Protection Agency's (EPA) mandate with a whole-of-government critical minerals strategy — goes to the heart of what our company was built to do: clean up a legacy environmental hazard and recover the critical minerals the United States needs at the same time.

The Problem: A Seventy-Five-Year Legacy of Abandoned Uranium Mine Waste

The EPA estimates there could be up to 15,000 sites associated with abandoned uranium mine (AUM) waste across the American West, including 4,200 Defense-Related Uranium Mine (DRUM) sites that are the residue of intensive Cold War-era uranium mining. AUM waste impacts nearly every state in the west with the highest concentration of sites located in New Mexico, Arizona, Utah, Colorado and Wyoming.

More than three-quarters of these sites sit on federal land, and many are concentrated on Tribal land. Approximately one in five people in the West live within 50 miles of an AUM waste site. This material has been sitting on the surface, untreated, for over half a century. It poses serious, well-documented health and environmental risks, it remains leachable into soil and groundwater, and it renders otherwise usable land off-limits.

Nowhere is the human cost clearer than on the Navajo Nation, where there are 523 abandoned uranium mine sites. An estimated 85 percent of homes in affected areas have been contaminated with uranium, and communities have experienced significantly elevated rates of cancer and kidney disease across generations. As one Navajo leader put it, the Nation has been living with this legacy for 75 years and is still waiting for its sites to be cleaned up. This is a public-health and environmental problem — and it is the problem DISA's technology was designed to solve.

The Opportunity: Cleanup and Recovery Are Not a Trade-Off

For decades, decision-makers faced only unsatisfying options at these sites: do nothing and accept the ongoing liability; cap the waste in place, which leaves the contamination and a recoverable resource buried onsite; or transport the entire volume of radioactive material to a disposal facility, which is slow, carbon-intensive, prohibitively expensive and creates significant public safety hazards from road transport.

There is a better path. The same waste that threatens these communities also contains recoverable uranium — with the potential to recover millions and millions of pounds of this much needed critical mineral. The opportunity before this Subcommittee is to enable cleanup and recovery to happen together: to convert a long-standing environmental liability into a domestic supply of a critical mineral that is essential to our country's nuclear energy base and national security — while reducing the United States' dependence on China and Russia and lowering the cost of cleanup to taxpayers.

The Solution: New Technologies, Including High-Pressure Slurry Ablation (HPSA)

DISA's core technology is High-Pressure Slurry Ablation (HPSA). It is a mechanical process that uses no toxic chemicals. Contaminated material is pre-conditioned into a water-based slurry and opposing slurry streams are collided through impinging nozzles. Those high-velocity, particle-on-particle collisions create intergranular fractures that selectively liberate the target minerals — in this case, the uranium and vanadium that coat the sand grains — while leaving the clean host sand intact. The technology is protected by 12 domestic and foreign patents and has 15 pending U.S. and international patent applications.

The results are significant. HPSA removes up to 98 percent of uranium contamination, eliminates leachability, and reduces the volume of waste requiring disposal by up to 80 percent. Roughly 80 percent of the material can be cleaned and returned to the site as safe, inert backfill, while only about 20 percent — the concentrated fraction — requires offsite management or further recovery. This drastically reduces truck traffic, carbon, and disposal costs compared with hauling away the entire volume offsite.

Independent and Federal Validation

This is proven technology, not a laboratory concept:

- **EPA Treatability Study (2022–2023).** Sponsored by the U.S. EPA and Navajo Nation EPA, the study evaluated HPSA on material from three Navajo Nation AUM sites in New Mexico and Arizona. It documented greater than 90 percent reduction in uranium and radium-226 concentrations in the treated coarse fraction, found that the treated coarse fraction does not leach metals or radionuclides above water-quality standards and can be disposed of or reused onsite, achieved up to an 83 percent reduction in original waste volume, and found 60 to 70 percent cost savings versus offsite disposal of all waste. Process water is recycled within the system and is not discharged until all waste is treated.
- **Idaho National Laboratory verification.** Idaho National Laboratory (INL) independently observed and audited HPSA on material from the Paradox Valley near Gateway, Colorado, with samples sent to a third-party laboratory. INL confirmed that HPSA selectively separates the uranium and vanadium from the surrounding material and concentrates them into a small fraction — efficiently isolating these critical minerals so they can be recovered rather than buried in place or hauled away.
- **NRC license and Finding of No Significant Impact.** After a multi-year process, the NRC Commissioners voted unanimously to regulate HPSA under a Service Provider License, and the NRC issued DISA's license on September 30, 2025 — the first license of its kind. The NRC's environmental review concluded that DISA's operations pose no significant environmental impact to land, water, air, wildlife, or public health, and the inert sand byproduct can be returned to sites consistent with regulatory standards for unrestricted release, subject to site-specific plans verified before each project. This effort drew bipartisan support from U.S. Senators and Representatives, the Navajo Nation EPA, and a range of nongovernmental organizations.

Doing It Safely and Responsibly

We understand that the first question Committee members may ask is whether this work can be done safely — for workers, for communities, and for water. The answer is yes, and protecting people is the foundation of how DISA operates. Worker safety and environmental protection at our NRC-licensed projects mirror the rigor applied at Superfund sites - both are built around radiation-dose protection.

Worker Safety

Our crews are trained radiation workers. Training covers the sources and types of radiation, biological effects, and the three pillars of radiation protection — time, distance, and shielding — as well as site layout and procedures for entering and exiting restricted areas. We operate within established federal dose limits: 5,000 millirem per year for workers, 100 millirem per year for members of the public, no more than 10 percent of the adult worker limit for minors, and a reduced limit for declared-pregnant workers, whose duties may be adjusted. We establish restricted and controlled work zones, require personal protective equipment, conduct routine contamination and air-sampling surveys and equipment-release surveys, use dosimetry, and perform documented dose calculations and reporting.

Environmental Protection

Before work begins, DISA conducts baseline gamma scans and background sampling. During operations, we construct containment around HPSA equipment to capture any spills, control drainage to prevent stormwater from leaving the site, and regularly sample the treated coarse material to confirm standards are met. After remediation, DISA conducts gamma surveys and sampling to confirm the process did not cause unintended contamination. Because HPSA is a wet, water-based process with recycled process water, it inherently suppresses dust and minimizes discharge.

Partnership with the Navajo Nation

Our work is consent-based and partnership-driven. DISA began working with the Navajo Nation in 2019, presenting to the Diné Uranium Remediation Advisory Commission. We conducted successful tests on material from the Old Church Rock site (New Mexico) with the Navajo Nation EPA, then completed the U.S. EPA- and Navajo Nation EPA-sponsored Phase 1 treatability study on three Navajo AUMs, all located in New Mexico and Arizona. Five Chapter House resolutions and a Navajo Nation Council Resource and Development Committee resolution have passed in support of the technology, and DISA and Navajo Nation EPA signed a Memorandum of Understanding in December of 2024 and an official contract in September 2025 to advance a Phase 2 demonstration. DISA and the Navajo Nation are now moving forward with a commercial-scale verification project slated to begin later this year.

We mention this record not to speak for the Navajo Nation — which speaks ably for itself — but to make clear that the path for which DISA advocates has been developed in partnership with the community that has borne this legacy the longest.

Why the Framework Must Modernize

DISA is pioneering AUM cleanup and uranium recovery, but the federal framework was not designed for technologies that do both. The barriers we describe are functions of outdated statutes, regulations, and organizational structure that have not been updated for decades and have failed to keep pace with technological advancements. The Administration's recent U.S. Department of the Interior Secretarial Order 3436 (July 24, 2025), which directs expedited review and prioritizes recovering critical and strategic minerals from mine waste, reflects a growing recognition that these frameworks need to evolve.

The principal structural gaps are:

- **No recognition of — or incentive for — value recovery.** The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is required to

consider using treatment technologies [40 CFR 300.400(c)(6)], cost-recovery and responsible-party cost-allocation models do not account for revenue from recovered minerals. However, there is no pathway that rewards, or even formally recognizes, recovery alongside cleanup.

- **Remedy-selection criteria assume "treat and dispose."** The standard CERCLA tools for comparing cleanup alternatives include cost of remedial action but focus primarily on construction, operations, treatment and disposal, not treatment and recovery. Resource recovery is not a factor for which federal agencies are directed to weigh when comparing remedies — which means promising technologies are too often studied and then abandoned before reaching commercial deployment.
- **No streamlined pathway for already-validated technology.** Pilot-tested technology re-enters full review at each new site, rather than receiving a streamlined re-application pathway once a method has been validated.
- **No designated lead agency.** Cleanup at these sites can often involve multiple agencies, including but not limited to EPA, Bureau of Land Management (BLM), U.S. Forest Service (USFS), NRC, U.S. Department of Energy (DOE), and Bureau of Indian Affairs (BIA), along with state agencies, with no single entity responsible for coordinating access and permitting. Conflicting or duplicative state, local, and Tribal standards can further delay even federally approved cleanups.
- **The law does not distinguish recovery from new mining.** Roughly half of AUMs are situated on BLM and USFS lands, sites that most often lack a Potentially Responsible Party (PRP) and EPA oversight. These sites tend to be some of the largest AUM waste piles with the highest grades of uranium sitting on the surface, making them ideal candidates for remediation and resource recovery. Unfortunately, remediation-and-recovery projects are treated the same as a brand-new mine on federal lands,

complicating classification, licensing, and reuse and discouraging the private-sector, no-cost-to-taxpayer cleanup our country needs. As mineral prices rise and economic cutoff grades fall, more of these sites become candidates for recovery that offsets cleanup costs. The federal government regulatory framework should be ready for that, not stand in its way.

The Legislation Before the Subcommittee

DISA's work is most directly affected by three of the legislative measures before the Subcommittee, and we offer the following observations on each.

- **H.R. 3713, Legacy Mine Cleanup Act of 2025 (Reps. Eli Crane (R-AZ) and Greg Stanton (D-AZ)).** DISA strongly supports this bipartisan bill. The EPA Office of Mountains, Deserts, and Plains can supply the interagency coordination that is missing today, and the bill explicitly contemplates innovative technologies and reuse approaches that recover valuable resources from mine sites — our company's exact mission. Its 10-year interagency plan for Navajo Nation AUM cleanup would bring overdue focus to the highest-priority sites. Importantly, the bill grants no new regulatory authority and sets no default cleanup standard, so it advances coordination without altering any health protection. We respectfully recommend that the EPA Office of Mountains, Deserts, and Plains be directed to maintain a streamlined pathway for technologies the agency has already validated, and to treat resource recovery as a factor in identifying best-practice remedies.
- **CHARM Act (Coordinating and Harnessing America's Recovery of Minerals).** DISA strongly supports this bill. Directing EPA to develop a National Critical Mineral Recovery Strategy — expressly including mining waste and residuals — and to identify the legal and technological barriers to recovery is precisely the remediation and resource

recovery framing this challenge requires. We recommend that AUM waste and HPSA-type recovery be identified as a model within the Strategy.

- **EMRTAI Authorization Act of 2026.** DISA strongly supports this bill, which would authorize EPA to support, through grants and cooperative agreements, technologies that recover critical materials from contaminated media and solid waste — directly validating and funding HPSA-type approaches. We note that the $3 million per-project cap is modest for commercial-scale demonstrations; a higher cap or a demonstration carve-out would help move proven technologies across the commercialization gap.

DISA also supports the broader goals reflected across the other measures before the Subcommittee to strengthen domestic recycling and critical mineral recovery.

Recommendations

To allow cleanup and recovery to proceed together, DISA respectfully offers the following recommendations:

1. **Recognize and account for resource recovery within the cleanup framework,** so that recovered-mineral value is acknowledged — and where appropriate credited — in cost-recovery and remedy-evaluation decisions.
2. **Direct agencies to weigh resource recovery as a factor in remedy selection,** alongside protectiveness and cost, when comparing cleanup alternatives.
3. **Create a streamlined general approval pathway for validated technologies,** so that a method proven once does not face full review at every subsequent site.
4. **Designate clear interagency coordination — a lead-agency function —** to align access and permitting across BLM, USFS, EPA, NRC, DOE, and BIA. The EPA Office of Mountains, Deserts and Plains proposed in H.R. 3713 is a strong vehicle.

5. **Distinguish legitimate recovery and recycling from new mining in law,** to simplify classification, licensing, and reuse and to encourage private-sector, taxpayer-saving cleanup.
6. **Support commercial-scale demonstrations,** including the DISA–Navajo Nation Phase 2 project, as credible, real-world validation of recovery-driven remediation.

Conclusion

For 75 years, the waste from the United States' Cold War uranium boom has remained on the land — a hazard to the communities living nearest to it and a resource left unrecovered. DISA's technology, validated by EPA and Idaho National Laboratory and licensed by the NRC, shows that we no longer have to choose between cleaning up these sites and recovering the critical minerals our country needs. We can do both simultaneously — protecting public health, restoring land to productive use, strengthening domestic mineral supply, and reducing the cost to taxpayers.

The legislation before this Subcommittee moves us in that direction. With a framework that keeps pace with advancements in technology, the United States can turn this legacy trash into treasure today. Thank you for your leadership on these important issues and allowing DISA the opportunity to testify. I look forward to your questions.