25th Navajo Nation Council

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OFFICE OF THE SPEAKER

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Resources and Development Committee hears report on high-pressure slurry ablation treatment

NN EPA Director Steven Etsitty and DISA CEO Greyson Buckingham presented a report on the use of high-pressure slurry ablation as a treatment for AUM lands.

WINDOW ROCK, Ariz. – On Monday, June 10, during a regular meeting of the Resources and Development Committee (RDC) held at the Navajo Agricultural Products Industry Headquarters, Navajo Nation Environmental Protection Agency (EPA) Director Stephen Etsitty and DISA Technologies, Inc., CEO Greyson Buckingham presented a report on the use of high-pressure slurry ablation (HPSA) as a treatment for uranium remediation.

The report stemmed from a May 20 meeting when the RDC learned that the USEPA had approved and verified the HPSA treatment final study results in Dec. 2023. Utilizing HPSA, the NNEPA worked with DISA on a pilot study. The Committee asked Etsitty to further elaborate on the process and how it could impact the remediation of abandoned uranium mine (AUM) lands on the Navajo Nation.

"Remediation of our uranium-contaminated lands impacts the health of the Navajo Nation on many levels. Our people who live near impacted areas suffer health issues due to radiation exposure. The contamination seeps into the groundwater and affects the potability for both humans and livestock," RDC Chair Brenda Jesus (Oaksprings, St. Michaels) said. "This high-pressure slurry ablation treatment technology could greatly reduce the amount of contaminated

waste that needs to be remediated."

According to Buckingham's presentation, HPSA technology uses a mechanical process without chemicals to remove radionuclides and metals from mine waste at AUM sites.

HPSA technology is designed to treat mine waste and results in two solid outputs: a large volume of coarse fraction material containing sand liberated of mineralized coating; and a smaller volume of concentrated fines fraction containing the liberated radionuclides and metals.

"We take the material as it sits and mix it in a slurry with water. It's essentially a dishwasher for rocks, stripping the contaminant from the sand," Buckingham said. "Of the original volume, 80 percent will be clean sand and the rest will be removed off-site. In this process, we've lowered the levels of materials left on-site."

NNEPA Director Etsitty said the Navajo Nation currently has 528 Superfund sites and the two main options of remediation presented are hauling the material away and/or burying the material on-site, which he said doesn't solve the problem.

"Another option is to minimize waste in an economic fashion," Etsitty said.

Regarding remediation as it relates to clean energy, Etsitty said the HPSA treatment process creates a more concentrated radioactive waste stream that many outside companies and industries are interested in.

"We're already being approached by companies who are interested in this waste because of the cost and the ban on importing uranium," Etsitty said. "I understand there is interest in this as a potential substance that will have economic value."

RDC Vice Chair Casey Allen Johnson (Cameron, Coalmine Canyon, Birdsprings, Leupp, Tolani Lake) said his home chapter of Cameron continues to struggle with the legacy of AUMs. The urgency of remediation is a priority for impacted communities. Johnson asked how HPSA could be expedited for use in areas like Cameron.

Etsitty responded that at some AUM locations, the USEPA has already decided on a remedy and that action would have to be taken to stop their remediation. He encouraged taking the approved HPSA treatment study results from the pilot phase into the field level.

"We need to move quickly on this. We're ready to move forward and we're working with the RDC to make sure we're all on the same page," Etsitty said.

The Resources and Development Committee voted five in favor and zero opposed in accepting the report on HPSA from the NNEPA and DISA Technologies, Inc.

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