Environmental Management (EM)
Nevada Program Activities
Monthly Report to the
Nevada Site Specific Advisory Board (NSSAB)
January 2023

External Affairs

- Publications:
  - Published follow-up article, *Nevada Brings Back Groundwater Open House to Public*, in EM Update on December 13, 2022 can be accessed here.
  - Featured in article, *Year in Review Highlights Progress as EM Shifts to Toughest Challenges Left*, in EM Update on December 20, 2022 can be accessed here.
  - Published article and social media, *EM Nevada Program Highlighted in the U.S. Department of Energy Office of Environmental Management Year in Review*, in EM Nevada News Brief on December 20, 2022 can be accessed here. The EM Nevada Program 2022 Year in Review included on pages 3 – 7.
  - The current *EM Strategic Vision: 2022-2032* can be accessed here. Nevada National Security Site (NNSS) is featured on pages 37-39. [standing item]
- Planned activities for January 2023:
  - Host a Program and field visit of the NNSS for Jack Zimmerman, Director for the EM Consolidated Business Center (CBC) – January 9 - 11, 2023
  - Host a partnering session with EMCBC, EM Nevada Program, and Navarro staff at the Molasky Corporate Center, Las Vegas, NV - January 10, 2023
  - Host NSSAB Full Board Meeting via hybrid format in Pahrump, NV, including social media, news release, and newspaper advertising for promotion – January 18, 2023
  - Host EM Nevada Program Intergovernmental Meeting via hybrid format in Pahrump, NV (NSSAB leadership to attend) – January 18, 2023

Waste Disposal and Transportation

- The fiscal year 2023 Waste Volume Report for the first quarter (October – December 2022) is available at http://www.nnss.gov/pages/programs/RWM/Reports.html
- Update from previous reports – Idaho Falls, ID generator. In May 2022, the Radioactive Waste Acceptance Program (RWAP) conducted a facility evaluation that resulted in one Finding. In July 2022, RWAP approved the generator's corrective action plan (CAP). In November 2022, the generator provided objective evidence that was not accepted by RWAP. The generator will resubmit revised objective evidence in January 2023. See June - July 2022 and September – December 2022 Monthly Reports for more information.
- Update from previous reports – Oak Ridge, TN generator #2. In July 2022, RWAP conducted a facility evaluation that resulted in two Findings. In September 2022, the generator submitted its CAP that was reviewed and approved by RWAP. In November 2022, the generator provided objective evidence that was

accepted by RWAP, and as a result RWAP closed the two Findings. See August - October and December 2022 Monthly Reports for more information.

- In December 2022, RWAP conducted one facility evaluation:
  - Las Vegas, NV generator: A facility evaluation that resulted in no Findings.

- In January 2023, RWAP will conduct one facility evaluation.

- In January 2023, approximately 80,729 cubic feet of low-level waste (LLW), mixed (MLLW), and classified waste is forecasted for disposal at the NNSS.

Underground Test Area (UGTA) - Groundwater

Corrective Action Unit (CAU) 101/102, Pahute Mesa
In December 2022, development of a response document to the External Peer Review Panel's report on the Pahute Mesa Groundwater Flow and Transport Model began. Additionally, DOE provided a status presentation on future groundwater drilling plans for the Pahute Mesa groundwater region to the State of Nevada Division of Environmental Protection (NDEP).

Industrial Sites

CAU 114, Area 25 Engine Maintenance, Assembly, and Disassembly (EMAD) Facility
CAU 114 comprises three Corrective Action Sites (CASs) in Area 25 of the NNSS. The Streamlined Approach for Environmental Restoration (SAFER) Plan was approved by NDEP in June 2021. In December 2022, preparation of the facility for eventual demolition continued, and will continue in January 2023.

CAU 572, Test Cell C Ancillary Building and Structures
CAU 572 comprises five CASs in Area 25 of the NNSS. The SAFER Plan was approved by NDEP in April 2021. In December 2022, preparation of the facility for eventual demolition continued, and will continue in January 2023 as access allows.

Post-Closure Monitoring

Non-Resource Conservation and Recovery Act (RCRA) Post-Closure Monitoring Sites
The Non-RCRA Post-Closure Monitoring Sites include CASs where post-closure inspections and maintenance were performed in accordance with closure requirements. In October 2022, annual inspections for the calendar year were completed; maintenance and repairs identified during the 2022 annual inspections will continue in 2023.

RCRA Post-Closure Monitoring Sites
The RCRA Post-Closure Monitoring Sites include six CAUs where post-closure inspections, monitoring, and maintenance were performed in accordance with the RCRA Permit and closure requirements. In December 2022, the quarterly inspections were conducted. In January 2023, any required repairs or maintenance identified during the quarterly inspections will be performed.

2022
YEAR IN REVIEW

U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT

NEVADA NATIONAL SECURITY SITE (NNSS)

"EM's work in Nevada continues to progress on multiple fronts: a completed soils program, three-of- four groundwater corrective action areas transitioned into long-term monitoring, and regulatory closure achieved at 99 percent of currently identified industrial-type sites. This year, we made progress in preparing to tackle the last remaining legacy facilities at the Nevada National Security Site. However, our work ahead is some of the most challenging and complex yet. I have full confidence that our talented federal and contractor workforce will safely, securely, and successfully complete these remaining environmental restoration tasks in the coming years."

– Rob Boehlecke, Manager, EM Nevada Program

HIGHLIGHTS

- Completed a comprehensive revision of the NNSS Waste Acceptance Criteria, further reinforcing the continued safety of waste acceptance and disposal operations at the NNSS.
- Securely disposed of an estimated 755,000+ cubic feet of low-level/mixed low-level waste and classified waste in support of DOE cleanup and activities at federal sites across the U.S. and other Department of Energy/National Nuclear Security Administration missions.
- Continued characterization and hazard reduction activities to prepare for demolition and closure of two legacy facilities at the NNSS.

CONTINUING LAST MAJOR DEMOLITION WORK

In 2022, the EM Nevada Program and its environmental program services contractor continued to prepare for the upcoming demolition and closure of two large legacy nuclear facilities on the NNSS—the Engine Maintenance, Assembly, and Disassembly (EMAD) and Test Cell C (TCC) complexes. Both EMAD and TCC were part of the Nuclear Rocket Development Station, which supported the development and testing of nuclear propulsion rocket engines from 1957 until 1973.

Characterization is underway in preparation for demolition and closure of the EMAD facility.

Characterization is underway in preparation for demolition and closure of the TCC facility.

Constructed in 1965, EMAD was once the largest hot cell in the world. The 80-foot-tall building contains 100,000 square feet of floor space and is anticipated to generate 120,000 cubic yards of waste, or about 6,500 truckloads. Test Cell C, built in 1961, was used to ground test nuclear reactors and engines for rockets. Demolition and closure of the facility are anticipated to generate 18,500 cubic yards of waste, or about 1,200 truckloads.

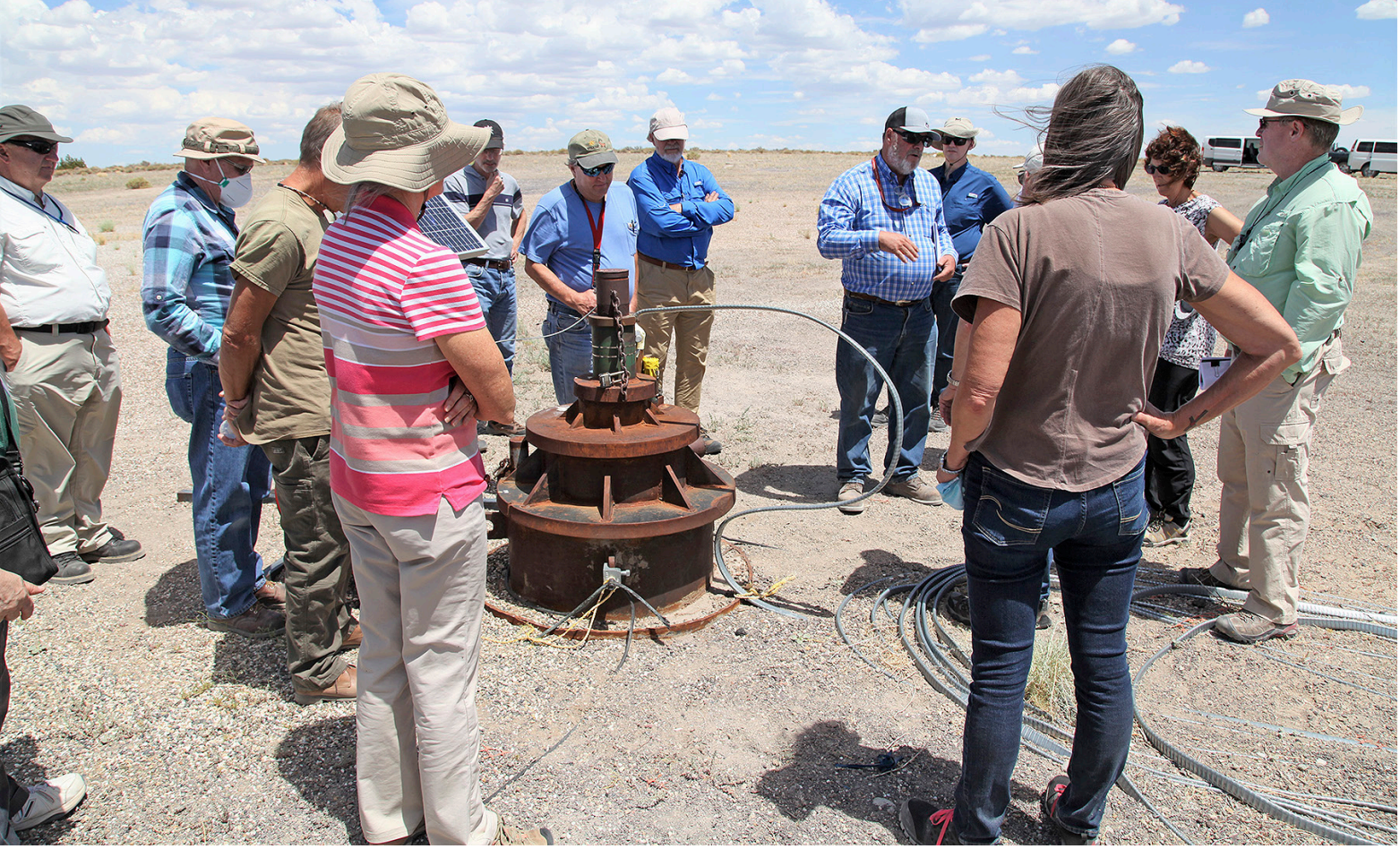
The work at EMAD and TCC represents the last major demolition and closure efforts currently identified in EM Nevada's environmental remediation mission. The characterization and hazard reduction performed in 2022 will help ensure future demolition and closure activities at EMAD and TCC are conducted safely, securely, and successfully.

PREPARING TO ADDRESS LAST ACTIVE GROUNDWATER AREA

This year, the EM Nevada program continued work at the Pahute Mesa, the last active groundwater corrective action area at the NNSS.

The program completed a survey at the Pahute Mesa groundwater area using electrical energy from a controlled source and audio frequency signals to explore the geology that controls groundwater flow patterns. The innovative technology allowed crew members to map to depths of around 3,000 feet. After reviewing results along with existing sampling data and observations from proximal wells, the program will be better positioned to determine whether and where to drill additional monitoring locations.

In addition, EM Nevada published the Pahute Mesa Flow and Transport Model Report—a set of conclusions based on complex geologic and mathematical models of groundwater flow and contaminant transport. Over 30 years of intensive drilling, data collection, analysis and modeling went into development of the model. NNSS scientists use such models to forecast the movement of radioactive contaminants in groundwater.



A team of independent reviewers observes a groundwater well on the Pahute Mesa region of the NNSS.

The Pahute Mesa investigation phase is expected to conclude by the end of 2023—marking completion of the flow and transport model, external peer review, and regulatory approval of the corrective action plan. The EM Nevada Program remains on track to attain regulatory closure at the Pahute Mesa groundwater area by 2028.

A worker records data received from the EM Nevada Program's most recent geophysical survey on the Pahute Mesa groundwater region.

U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT