



Nevada Site Specific Advisory Board (NSSAB)

Full Board Meeting - Wednesday, April 19, 2023

Handouts:

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- Page 3 Reevaluation of the Audit Determination Process (Work Plan Item #3)
- Page 17 Environmental Management Site-Specific Advisory Board (EM SSAB)
Draft Recommendation ~ Implementation of EM SSAB Chairs'
Recommendations
- Page 20 Revegetation of EM Sites (Work Plan Item #5)

NSSAB FULL BOARD MEETING ATTENDANCE

October 2022 through September 2023 (FY 2023)

Name	1/18/23	2/15/23	4/19/23	7/19/23	9/20/23	Max Terms
MEMBERS						
Erik Anderson	√	√				2028
Joycelyn Austin-Mabe	√	√				2028
Lisa Blandi	√	√				2028
John Cole	√	√				2028
William DeWitt	√	√				2024
Bill Dolan	√	E				2026
Gary Elgort	√	√				2026
Anthony Graham	√	√				2024
Mark Hilton	√	√				2026
Bruce Jabbour	√	E				2026
Dan Peterson	U	√				2026
Janice Six	√	√				2024
Kevin Trainor	√	E				2028
Favil West	√	√				2026
Eddie Williams	√	√				2028
LIAISONS						
Clark County	√	E				
Consolidated Group of Tribes & Organizations	E	E				
Elko County Commission (limited)						
Esmeralda County Commission (limited)	√					
Lincoln County Commission	U	U				
Nye County Commission	V	√				
Nye County Emergency Management	√	√				
Nye Co. Natural Resources and Federal Facility	√	√				
State of NV Division of Env Protection	√	√				
U.S. Natl Park Service (limited)	√					
White Pine County Commission (limited)						
KEY: √ - Present E - Excused V - Vacant U - Unexcused						

Reevaluation of the Audit Determination Process – Work Plan Item #3



Marilew Bartling, RWAP Manager
Navarro, Contractor to the
U.S. Department of Energy (DOE)
Environmental Management (EM) Nevada Program
April 19, 2023



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Log No: EMRP-2023-027

NSSAB - Work Plan Item #3

- From a community perspective, the Nevada Site Specific Advisory Board (NSSAB) will provide a recommendation on the processes used by the EM Nevada Program to develop Radioactive Waste Acceptance Program (RWAP) Facility Evaluation (FE) schedules



NSSAB - Work Plan Item #3 (continued)

- Background: RWAP modified the risk-informed selection process for developing the FE schedule of waste generators starting in fiscal year (FY) 2020 by adding additional attributes for consideration. After three years of data and lessons learned, the EM Nevada Program is reevaluating the risk attributes used in this process.
- Up to two NSSAB members are invited to observe an RWAP FE and present their observations to the Full Board during the NSSAB Meeting on September 20, 2023
- NSSAB recommendation is due in September 2023



Discussion Topics

- Defining FE Types
- FE Schedule Enhancements Since FY 2020
- Assessing and Rating Risk Attribute Data for Schedule Development
- Evaluate Special Consideration for FEs
- FY 2023 Ranking Table
- Schedule Development and Control
- Continuous Improvement



Presentation at Area 5 Radioactive Waste Management Complex during NSSAB Tour



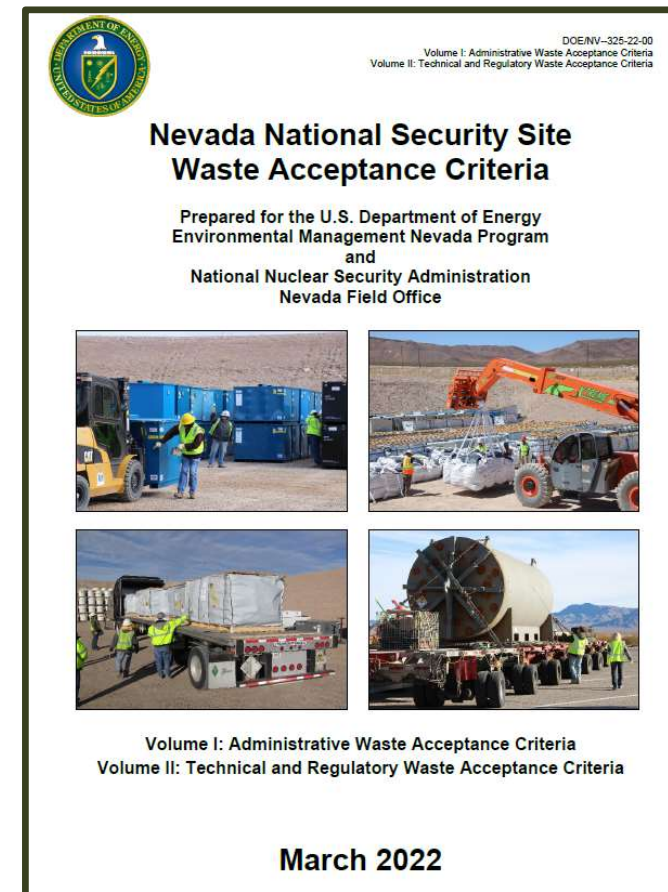
Defining FE Types

- Audits – evaluate waste generator program for evidence of compliant implementation with the Nevada National Security Site Waste Acceptance Criteria (NNSSWAC) five programmatic elements (radiological characterization, chemical characterization, traceability, packaging and transportation, and quality assurance)
- Surveillances – evaluate specific programmatic and/or operational element implementation including one or more of the following:
 - Specific program element evaluation(s)
 - Corrective action evaluation(s), or
 - Verifications
- Verifications – may include witnessing collection of analytical samples and splits or an on-site waste stream specific review



FE Schedule Enhancements Since FY 2020

- Program enhancements identified from lessons learned and the 2021 State of Nevada Division of Environmental Protection (NDEP) Settlement Agreement
 - Increased FEs by 10% over FY 2019 (27) versus FY 2022 (33)
 - Increased focused surveillances targeting complex waste streams to better inform participants in the Waste Acceptance Review Panel prior to approval
 - Documented agreed upon items into the 2022 NNSSWAC revision and updated RWAP team generator FE assessment tools – added waste stream ‘deep dive’ and Waste Certification Official checklists



Assessing and Rating Risk Attribute Data for Schedule Development

- Compile and assess waste generator's compliance data from previous FYs based on RWAP findings and observations and governing regulator actions – 40% weighted factor
- Compile and assess generator's waste information for both shipment volumes and total waste activity (in curies) – 20% weighted factor
- Sort by generator site type (e.g., production facility, national laboratory, EM restoration site) – 40% weighted factor
 - The total calculated number for each generator forms the baseline for risk ranking



Evaluate Special Consideration for FEs

- After the rankings are initially set based on the risk attributes, other considerations are reviewed:
 - New generators
 - Restart after an NNSC-issued Waste Certification Program suspension (generator self-suspension is determined on a case-by-case basis)
 - Three years since last audit for an active generator shipping waste
 - Change in generator site work scope or change in program prime contractor
 - Generator restarting after more than a 12-month gap in shipping waste to the NNSC
 - The final risk ranking is a management tool to best focus RWAP resources



FY 2023 Ranking Table

- RWAP Issued Findings (Cat 1): Regulatory Violation – **20 pts**
- RWAP Issued Findings (Cat 2): NNSSWAC Non-Compliance Including Upon Receipt at Area 5 – **15 pts**
- RWAP Issued Findings (Cat 2): Generator Procedure Non-Compliance – **10 pts**
- Notice of Violation (NOV) pertaining to waste management or transportation – **20 pts**
- ORPS relating to waste management and transportation not resulting in a NOV or RWAP finding – **15 pts**
- Receipt Discrepancies: Trending Criteria from Receipt at Area 5 – **10 pts**
- RWAP Observations – **5 pts**
- Weighted Total (.4)**

- Forecasted Shipments – **Assign values of 20, 15, 10, and 5 Depending on Ranking**
- Total Activity 2021/2022 in Curies – **Assign Values LLW, MLLW of 20, 15, 10, and 5 Depending on Ranking**
- Weighted Total (.2)**

- Tier One: National Laboratories, NNSA Production Facilities; Special Projects – **20 pts**
- Tier Two: Non-DOE Generators – **15 pts**
- Tier Three: Ongoing D&D Projects (no change in scope) – **10 pts**
- Weighted Total (.4)**

- New Generator or Project**
- Restart after NNSA Suspension**
- Restart after a >12-month Period of Shipping**
- Generator Contract Change**
- >3 years with No Audit**
- Other Considerations**

Total Ranking

ORPS – DOE’s Occurrence Reporting and Processing System
 LLW – Low-Level Radioactive Waste
 MLLW – Mixed Low-Level Radioactive Waste
 NNSA – National Nuclear Security Administration
 NOV – Notice of Violation
 D&D – Deactivation and Decommissioning



Schedule Development and Control

- RWAP maintains flexibility in the schedule to adjust assessments if higher ranking generators need to be addressed or RWAP needs to accommodate issues that may arise
- The RWAP Manager may downgrade or upgrade between an audit or surveillance or delay a FE based on other considerations in consultation with EM Nevada Program personnel
- Schedule is updated at least quarterly to account for arising waste streams of special interest or other generator conditions



Continuous Improvement

- As the 2022 NNSSWAC is implemented, RWAP works with EM Nevada Program, NDEP, and generators to continuously improve its FE Schedule evaluation process
- Weighed factor adjustments and changes in criteria are continuously evaluated
- RWAP encourages generator feedback and federal and regulator suggestions to enhance its FE Schedule process
- Data compilation supported the process



NSSAB observation of visual verification activities



Key Messages



- RWAP has formalized its risk-informed FE schedule generation process to minimize subjectivity
- The FE Program made enhancements based on lessons learned and the NDEP Settlement Agreement

- The FE Program allows sufficient flexibility and adjustment in FE scheduling to accommodate adverse changes in generator risk
- RWAP strongly embraces continuous improvement and encourages feedback to improve its risk-informed process



Proposed RWAP Audits for NSSAB Observations

- To foster NSSAB understanding of waste generator missions and the depth of RWAP evaluations, EM Nevada is offering an opportunity for one NSSAB member to observe at each of the upcoming FEs:

Date	Generator	Location
August 7-10, 2023 (includes travel days)	Idaho National Laboratory (Advanced Mixed Waste Treatment Project – AMWTP)	Idaho Falls, ID
August 14-17, 2023 (includes travel days)	Perma-Fix (Diversified Scientific Services – DSSI)	Kingston, TN

- Selected modules assessed: quality assurance, radiological characterization, chemical characterization, traceability, and transportation
- Two-day surveillances with two auditors plus two days travel for out-of-state generators



NSSAB Path Forward – Work Plan Item #3

- From a community perspective, the NSSAB will provide a recommendation on the processes used by the EM Nevada Program to develop RWAP FE schedules
- Up to one NSSAB member to observe at each of the upcoming FEs
- NSSAB member(s) report their observations to the Full Board at the NSSAB Meeting on September 20, 2023
- NSSAB recommendation is due in September 2023



ENVIRONMENTAL MANAGEMENT SITE-SPECIFIC ADVISORY BOARD

Hanford Idaho Nevada Northern New Mexico
Oak Ridge Paducah Portsmouth Savannah River

INSERT DATE

Mr. William “Ike” White
Senior Advisor
U.S. Department of Energy (DOE) Office of Environmental Management (EM)
1000 Independence Avenue, SW
Washington, DC 20585

Dear Mr. White:

BACKGROUND

According to the EM SSAB charter (Section 3), the EM SSAB provides EM senior management “with advice and recommendations concerning issues affecting the EM program.” The EM SSAB has made at least 10 recommendations to DOE since 2018, often at the request of DOE. The recommendation process includes three parts: (1) the EM SSAB recommendation, (2) the DOE response to the recommendation, and (3) the final policy action or implementation of the recommendation by DOE. While parts (1) and (2) are well recognized (e.g., in public postings on the EM SSAB website and responses distributed to local Boards), it is part (3), implementation, that makes EM SSAB recommendations meaningful and the recommendation process an effective use of time and other resources, those of both EM SSAB members and DOE.

It is important to review the implementation of recommendations for several reasons:

1. Ensuring accountability: Recommendation implementation reviews help ensure that DOE is held accountable for the advice it requests and/or receives from its volunteer Board members. By examining whether recommendations have been implemented as written, EM SSAB can assess how its efforts are valued and identify areas where further deliberations and recommendations are needed.
2. Improving effectiveness: Recommendation reviews provide an opportunity to assess whether recommended activities are working as intended and identify areas for improvement. By examining the results of recommendation implementation, EM SSAB and DOE can make adjustments to recommended activities to ensure they achieve their intended goals.
3. Enhancing transparency: Reviews of recommendation implementation increase transparency by providing a clear understanding of how recommendations are being implemented

and the outcomes they are producing. This transparency is critical for building trust in DOE and ensuring that the public has confidence in DOE and its clean-up activities.

4. Promoting learning: Recommendation implementation reviews provide an opportunity for EM SSAB and DOE to learn from their experiences and identify best practices for making and implementing recommendations. By sharing these best practices, EM SSAB and DOE can promote more effective and efficient recommendation making and implementation in the future.

RECOMMENDATION

The EM SSAB recommends:

1. DOE provide clear and publicly accessible information regarding implementation of EM SSAB Chairs recommendations for the last five years. In addition to a clear statement about implementation status (e.g., "Implementation of the recommendation is complete (or "ongoing", "suspended", or "discontinued"), the information should include an explanation of any deviations from the DOE response to the recommendation.
2. DOE report to the EM SSAB at least annually a summary of the status of all EM SSAB Chairs recommendation items and any recommendation action item completed during the reporting period.

Who We Are

The EM SSAB is the DOE-EM's most effective vehicle for fostering two-way communication between DOE-EM and the communities it serves. The EM program is the world's largest environmental cleanup program, and the EM SSAB its only citizen advisory board. For more than 20 years, the volunteer citizens of the EM SSAB have partnered with EM officials at both the local and national levels to ensure that the public has a meaningful voice in cleanup decisions.

Public participation is required/recommended as part of a number of environmental regulations. It is also good business practice, resulting in better decisions that often result in improved cleanup. Over the past two decades, EM SSAB members have volunteered over 48,000 hours of their time and submitted to EM officials over 1500 recommendations, 88% of which have been fully or partially implemented, resulting in improved cleanup decisions.

The EM SSAB comprises approximately 200 people from communities in Georgia, Idaho, Kentucky, Nevada, New Mexico, Ohio, Oregon, South Carolina, Tennessee and Washington. The Board is cumulatively representative of a stakeholder population totaling millions of people who are affected by generator sites, transportation routes and disposal sites. As we move forward, the EM SSAB welcomes the opportunity to highlight the value of this unique volunteer board and discuss its priorities during the months and years ahead.

Susan Coleman, Chair
Hanford Advisory Board

Teri Ehresman, Chair
Idaho Cleanup Project CAB

Anthony Graham, Chair
Nevada SSAB

Cherylin Atcitty, Chair
Northern New Mexico CAB

Leon Shields, Chair
Oak Ridge SSAB

Don Barger, Chair
Paducah CAB

Jody Crabtree, Chair
Portsmouth SSAB

Gregg Murray, Chair
Savannah River Site CAB

cc: Kelly Snyder, Designated Federal Officer, EM-4.32

Revegetation of Environmental Management Sites – Work Plan Item #5



Tiffany Gamero, Long-Term Monitoring Lead
U.S. Department of Energy (DOE)
Environmental Management (EM) Nevada Program
April 19, 2023



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NSSAB - Work Plan Item #5

- From a community perspective, the Nevada Site Specific Advisory Board (NSSAB) will provide a recommendation on improvements or enhancements to revegetation of EM sites
- NSSAB recommendation is due in July 2023



Discussion Topics

- Importance of vegetation on closed landfill covers
- History of revegetation of EM sites
- Future timeline of required revegetation efforts



Irrigation Wheel System



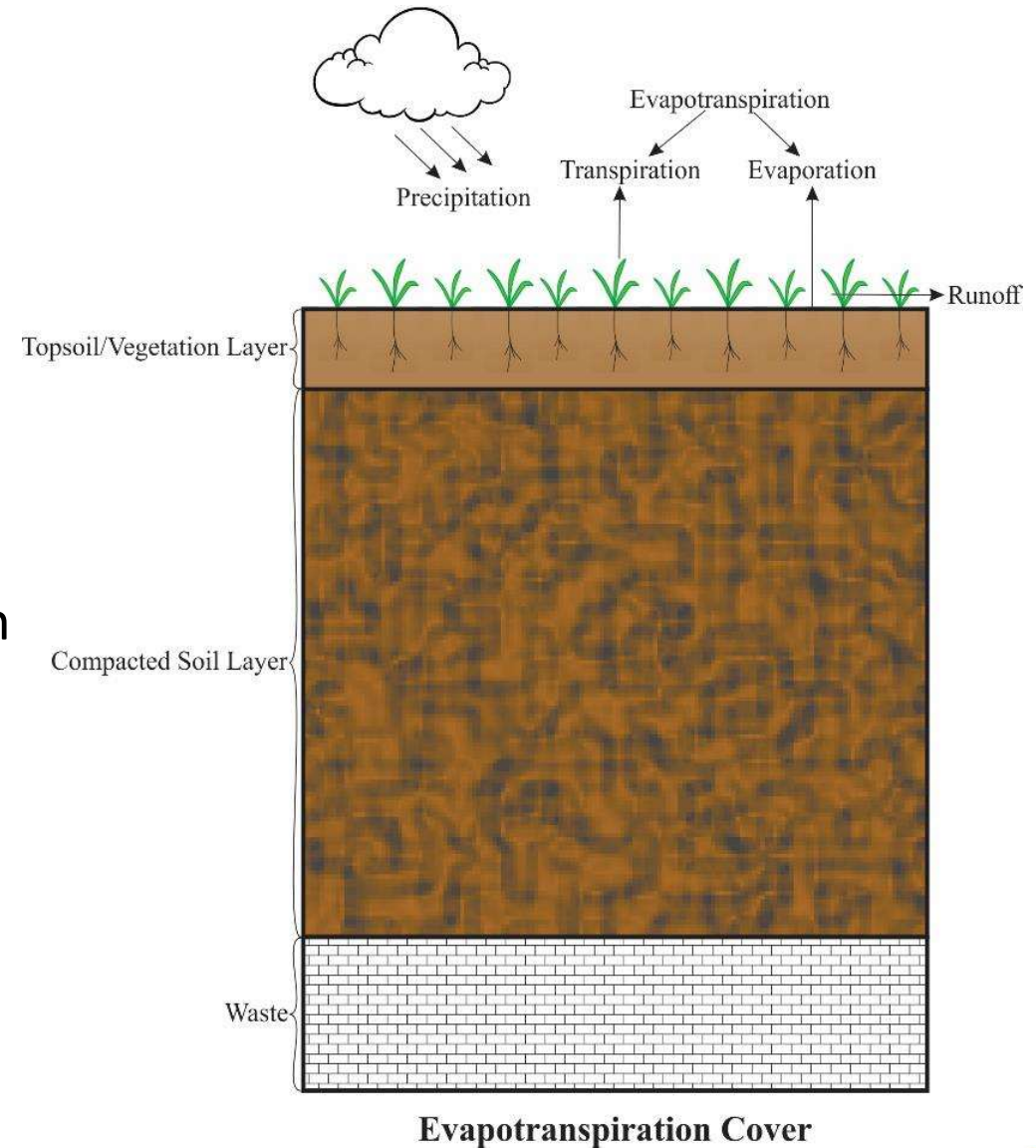
Definitions

- Evapotranspiration – the process by which water is transferred from the land to the atmosphere by evaporation from the soil and other surfaces and by transpiration from plants
- Broadcast seeding – method of seeding that involves scattering seed, by hand or mechanically, over a relatively large area
- Transplant – a growing plant that is uprooted and replanted in another location
- Outplant – a growing plant that is reared in a greenhouse and replanted outdoors



Evapotranspiration Covers

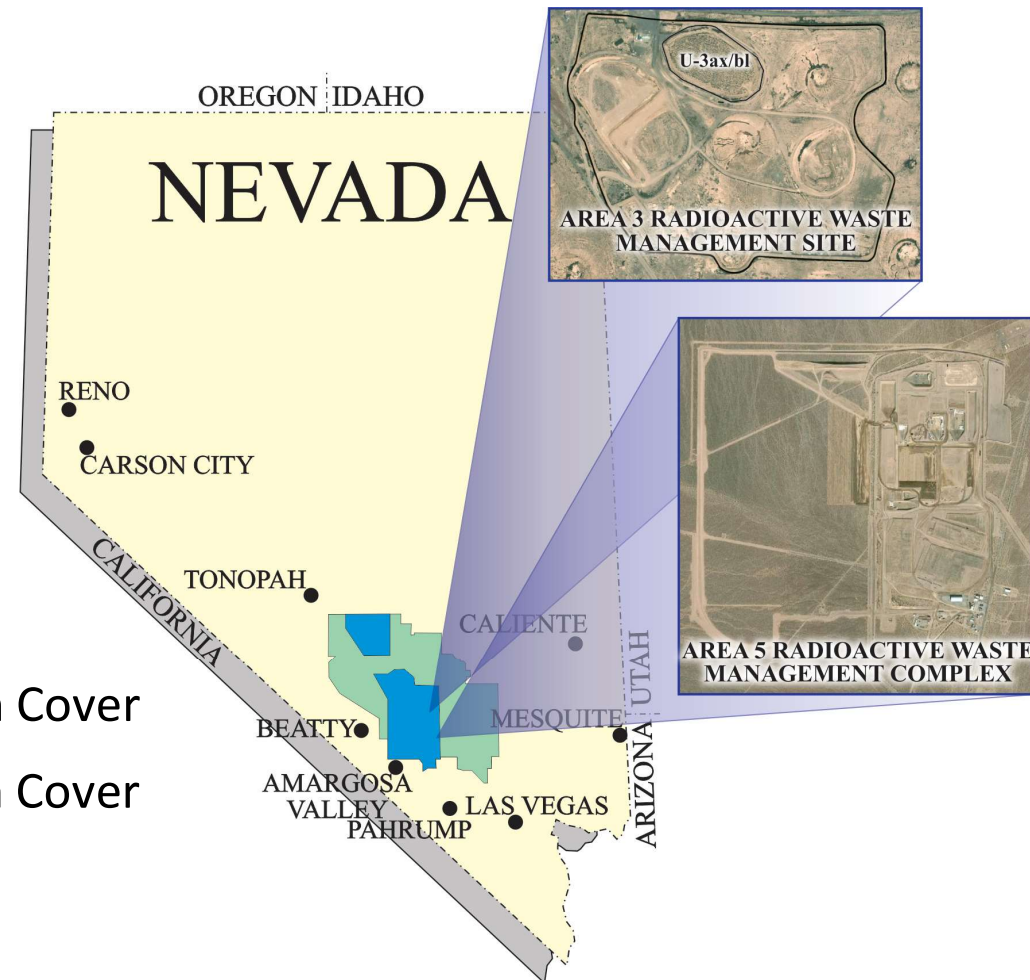
- A stable plant community:
 - Prevents precipitation from reaching buried waste, which can carry contamination out of the landfill towards groundwater by returning moisture to the atmosphere by evapotranspiration
 - Reduces water and wind erosion
 - Restores the disposal unit to its surrounding environment



EM Sites Required to be Vegetated

- Area 3 Radioactive Waste Management Site (RWMS):
 - U-3ax/bl disposal unit
- Area 5 Radioactive Waste Management Complex (RWMC) closed landfill cells:

<ul style="list-style-type: none"> – Closure Covers ▪ Cell 18 ▪ Cells 10, 12, and 17 ▪ Cells 13, 14, and 15 ▪ Cells 19 and 20 ▪ Cell 21 	<ul style="list-style-type: none"> – 92-Acre Area ▪ North-North Cover ▪ South-North Cover ▪ West Cover ▪ South Cover
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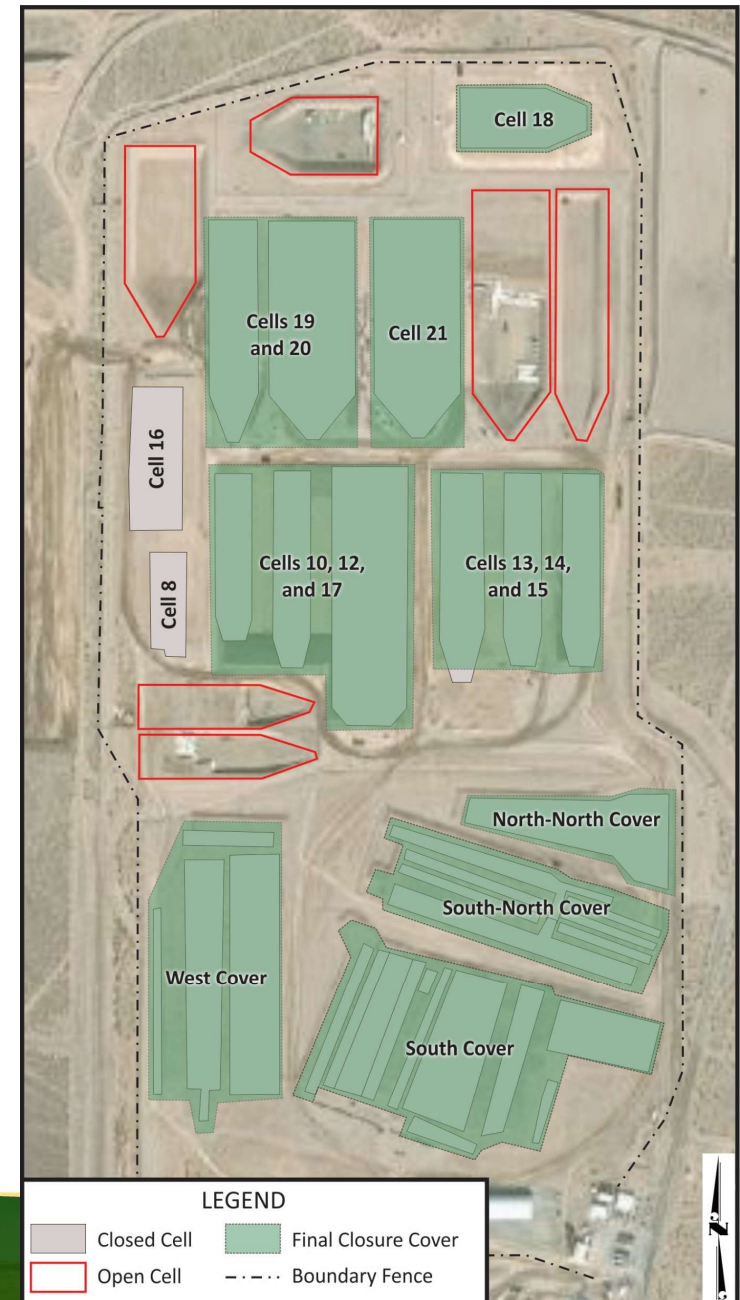
U-3ax/bl Disposal Unit, Area 3

- Closed in 2000
- Cover vegetated with a mixture of shallow-rooting native plants
 - Broadcast seeding
 - Straw mulch
 - Supplemental irrigation
 - Chicken wire mesh fence



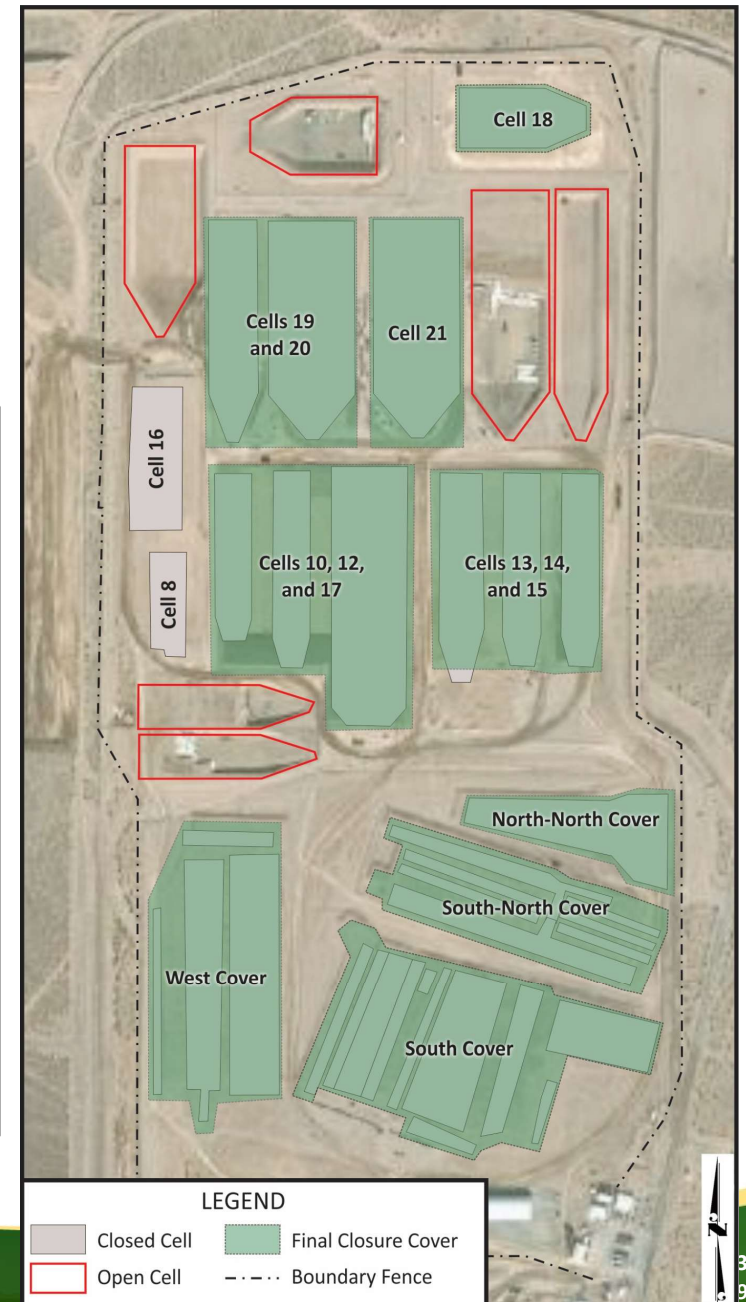
Area 5 Closure Covers: History

- Cell 18
 - Seeded in 2020
 - Outplants added in 2021
- Cells 10, 12, and 17 and Cells 13, 14, and 15 Closure Covers
 - Seeded in 2021 (outplants determined not to be needed to supplement seeds)
- Cells 19 and 20
 - Seeded in 2022
 - Outplants added in 2023
- Cell 21
 - Seeded in 2023; potential outplants in 2024



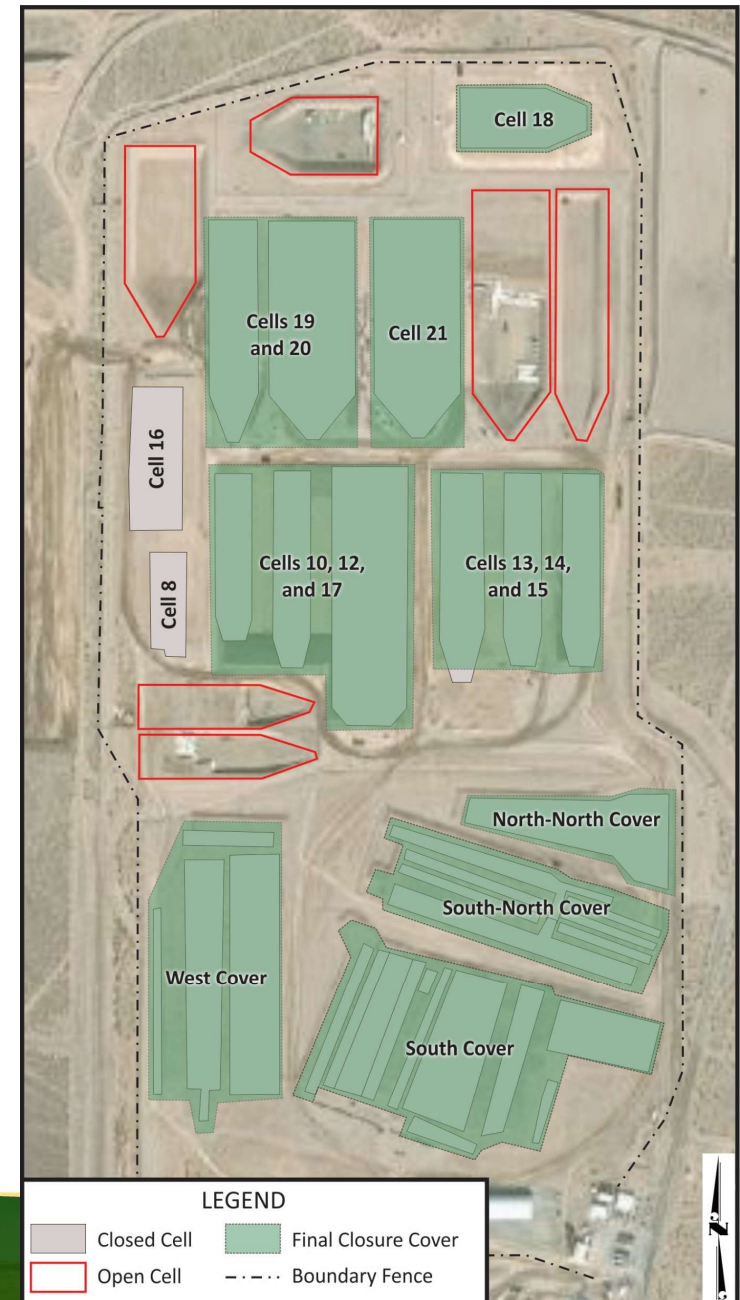
Area 5 Closure Covers: Path Forward

- Cells 8 and 16
 - To be seeded in 2024
 - Potential outplants in 2025



92-Acre Area, Area 5: History

- Closed and all four covers seeded in 2011
- Plants initially sprouted, but high plant mortality rates were observed by May 2013
- Test plots on North-North Cover in October 2013; viable community was not established
- Test plots on South-North Cover in October 2014; viable community was not established
- Tribal Revegetation Project on South-North Cover from 2016 through 2021



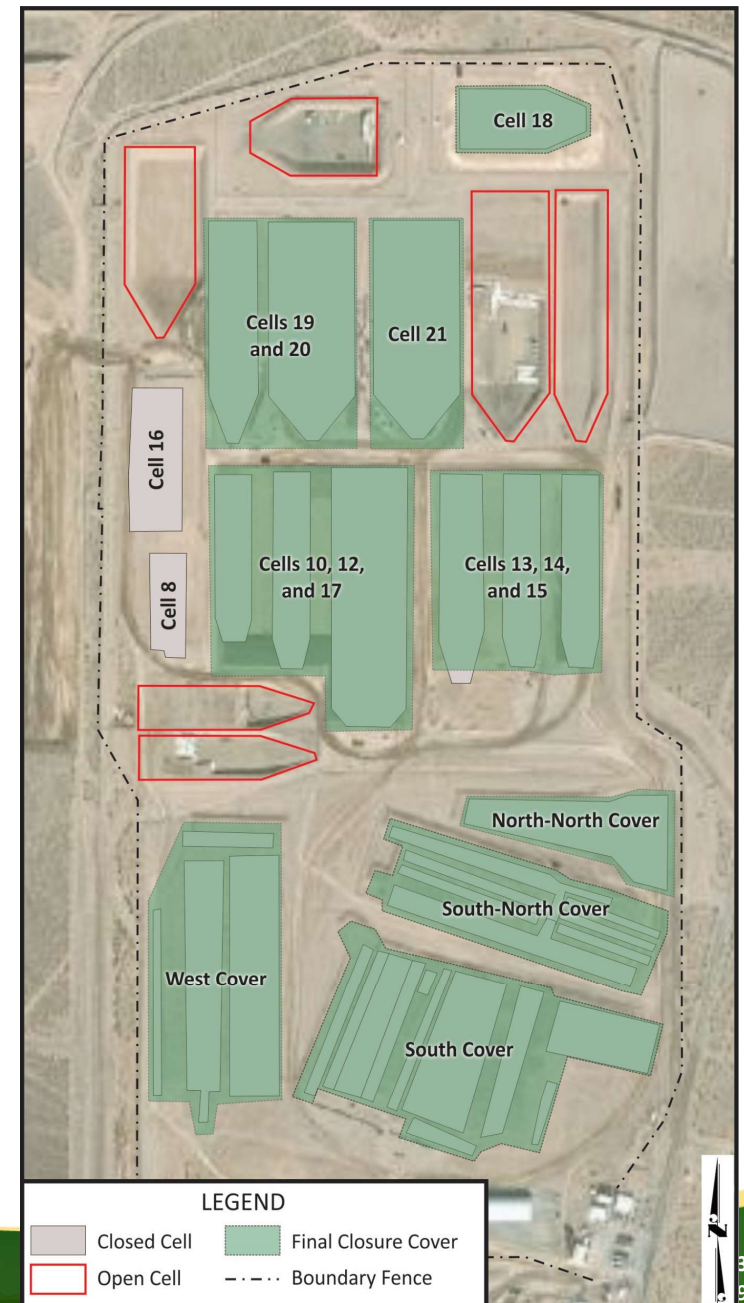
Tribal Revegetation Project

- Test plots were established on the South-North Cover using various combinations of revegetation and outplant treatments during two planting seasons (Fall 2017 and Spring 2018)
- Monitoring of the test plots was conducted from 2018-2020 by Tribal members and the Desert Research Institute
- Test plots were routinely irrigated through Fall 2020
- A final project report, detailing the observations and recommendations, was delivered to the EM Nevada Program in March 2021



92-Acre Area, Area 5: Path Forward

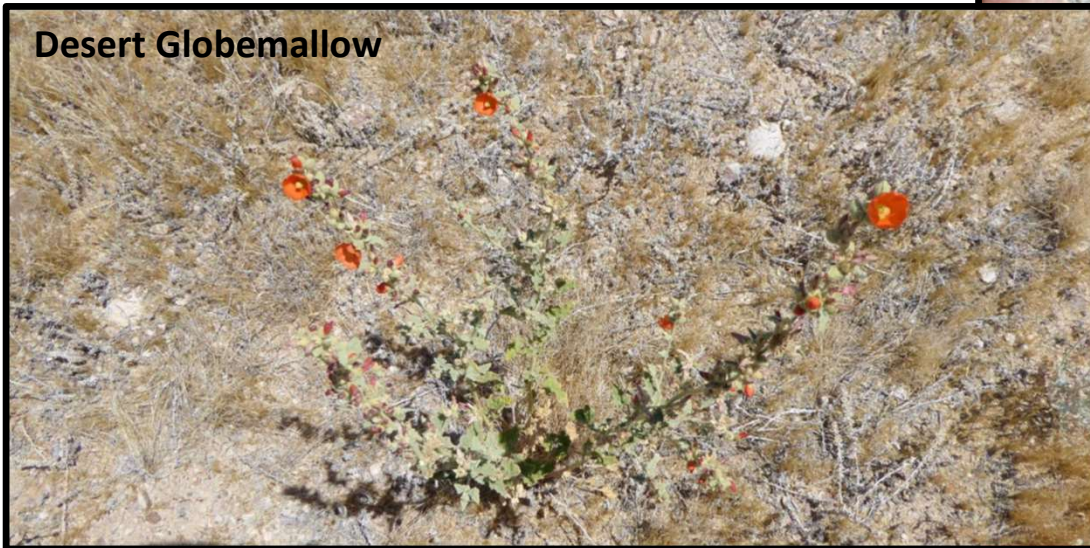
- Revegetation of the covers will incorporate recommendations from the Tribal Revegetation Project and lessons learned from revegetation projects to date
 - North-North Cover
 - Seeded in 2023; potential outplants in 2024
 - South Cover
 - To be seeded in 2024; potential outplants in 2025
 - West and South-North Covers
 - Seeded in 2025; potential outplants in 2026



Key Messages

- Revegetation is a vital component of closure of EM landfill units
- As remaining cells at Area 5 RWMC are closed in the future, they will also be revegetated
- Lessons learned, both ongoing and those compiled since revegetation began, will guide future efforts

Desert Globemallow



Young Seedlings of Nevada Ephedra and Desert Marigold



NSSAB Path Forward – Work Plan Item #5

- From a community perspective, the NSSAB will provide a recommendation on improvements or enhancements to revegetation of EM sites
- NSSAB recommendation is due in July 2023

