NV ENERGY

Reid Gardner Station

Administrative Order on Consent

Fact Sheet

June 2026

NV Energy continues to progress towards fulfilling the requirements of an Administrative Order on Consent (AOC) for remediating the former Reid Gardner Generating Station (RGS). In 2008, NV Energy and the State of Nevada Division of Environmental Protection (NDEP) executed the AOC to govern the performance and completion of environmental contaminant characterization, screening and selection of remedial alternatives and implementation and long-term operation and maintenance of remedial actions to address pollution conditions at the former coal power plant site.

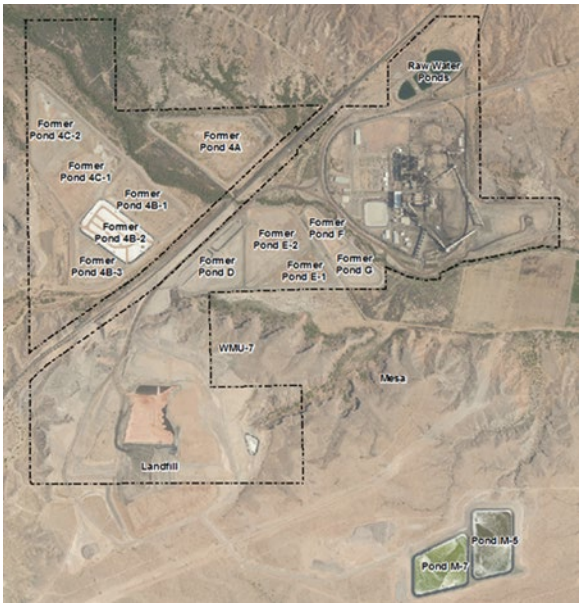
Details of the remediation project including maps, reports, and associated documentation are available for public inspection at the Document Repository located at:

Moapa Town Library
1340 East Highway 168
Moapa, NV 89025
Phone: (702) 864-2438

or from NDEP

Location

The NV Energy-owned RGS is located near Moapa, Nevada, approximately 52 miles northeast of Las Vegas. The now-decommissioned facility began commercial operation in 1965. The plant formerly operated four coal-fired power-generating units. Units 1-3 were permanently shut down on December 31, 2014, and Unit 4 was permanently shut down on March 11, 2017. Demolition of the facility began in 2017 and was completed in July 2020. The existing substation, transmission lines and telecommunications facilities remain in service. In December 2023 a 220-megawatt two-hour grid-tied battery energy storage system became operational. One building remains on site for site personnel and material storage.



Background

The RGS is located within the Moapa Valley, which is a relatively flat-bottomed desert valley that includes the Muddy River, a spring-fed perennial stream that runs through the RGS property. Prior to 1964, the area was native desert or irrigated pastureland. A ranch is operated on the land east of the RGS. The RGS property also includes land on a mesa (mesa), to the south, that is

more than 100 feet above the valley. The United States Department of the Interior, Bureau of Land Management (BLM) owns most of the vacant surrounding land to the north and south of the RGS. There are also some parcels of vacant private property north and northwest of the RGS. At its closest point, land owned by the Moapa Band of Paiutes is located approximately 500 feet to the west and northwest of the NV Energy property line and residences are located approximately one-quarter mile northwest. The Union Pacific Railroad maintains a corridor through the RGS property.

The RGS formerly included a nominal 557-megawatt coal-fueled, steam-electric generating plant with four operating units. The first two 100-megawatt generating units went into service in 1965 and 1968. A third 100-megawatt unit was added in 1976, followed by a 257-megawatt unit that was commissioned in 1983.

The RGS received non-potable water supply from a combination of off-site groundwater wells and an off-site surface water withdrawal from the Muddy River. The water was combined and collected on-site in raw water storage ponds. Water supply will continue to be used during the site closure process for dust control, earthwork, and site restoration activities.

Water was previously used on-site for process cooling, air emission reductions, steam generation and other uses. To reduce water usage, the RGS recycled water as much as possible. When the dissolved salts in the recycled water became too high for further reuse, the water was discharged into evaporation ponds. There were no surface water discharges of wastewater from the RGS, as the plant was a zero-wastewater discharge facility.

The evaporation ponds were designed and constructed according to industry standards and engineering practices and regulations in effect at the time. Some early ponds, for example, used clay material in the liners and berms which allowed some water containing elevated concentrations of dissolved salts to migrate through the pond bottoms and into the local groundwater. This has necessitated remediation (clean-up, or corrective action) activities in cooperation with the State of Nevada.

Ash generated during combustion of coal was managed in various ways during the life of the plant but primarily was placed in the Mesa Landfill. The landfill, located on the mesa south of the plant (and more than 100 feet above groundwater), is a permitted class III industrial solid waste landfill.

Regulatory oversight

NDEP - Bureau of Corrective Actions has primary authority and responsibility for regulatory oversight of groundwater and soil characterization, as well as corrective action activities at the RGS.

In May 1997, NDEP issued an Administrative Order (Order) that mandated NV Energy complete six requirements, including submitting a site-wide plan and schedule to eliminate the migration of contaminants into groundwater. By 2008, NV Energy completed four of the six requirements in the 1997 Order. The remaining two requirements - those related to groundwater investigation and cleanup - were superseded by an AOC that was executed between NV Energy and NDEP in February 2008.

As part of compliance with the 1997 Order, Evaporation Ponds 4B-1, 4B-2, 4B-3, 4C-1, 4C-2, E-1, E-2 and F were relined with two layers of high-density polyethylene (HDPE) and equipped with leak-detection systems until they were taken out of service between 2008 and 2015. Ponds 4A, D, and G were permanently removed from service between 1999 and 2008.

In 2011, NV Energy completed construction and began operation of two new HDPE double-lined evaporation ponds (M-5 and M-7) on the mesa. The ponds were removed from service in April 2021, and all materials were excavated and placed in the onsite landfill in 2025.

The AOC requires NV Energy to continue with environmental contaminant characterization activities and to identify corrective measures, as necessary, for soil and groundwater at RGS. The AOC also requires implementation and long-term operation and maintenance of NDEP-approved corrective actions.

Characterization activities

To identify potential sources of contamination at the RGS, NV Energy has reviewed hundreds of

historical documents and existing soil and groundwater data. This work was summarized in the *Preliminary Source Area Identification and Characterization Report*, finalized in July 2013, which identified 35 potential contamination sources (also called a "source area") for further investigation. Link to map.

Many site-related chemicals at the RGS are naturally-occurring minerals (e.g., metals, salts) in the soil and groundwater. Therefore, when soil and groundwater samples are collected, the constituents and concentrations must be evaluated to determine if they are naturally occurring or due to former RGS activities. To support these evaluations, NV Energy has measured the background concentrations of naturally occurring minerals through groundwater monitoring and soil sampling in areas outside the influence of RGS operations. These results were summarized in the *Background Conditions Report* issued by NV Energy on November 7, 2014. The report provided background threshold values (BTVs) for soil and groundwater in the Muddy Creek Formation (MC Fm) North and the MC Fm–Mesa Areas. The soil BTVs were compared to U.S. Geological Survey regional background soil concentrations and U.S. Environmental Protection Agency industrial soil regional screening levels (RSLs) as a quality control-check.

The soil and MC Fm groundwater BTVs were approved by NDEP for screening level assessments. A detailed statistical evaluation of alluvial groundwater, documented in the *Background Conditions Report Addendum 1*, resulted in NDEP acceptance of intra-well alluvial groundwater BTV ranges for 37 site-related chemicals. The report and NDEP response indicated that the BTVs may be considered to remediation decision making on a case-by-case basis.

In 2009, NV Energy began investigating a potential source area referred to as Waste Management Unit 7 (WMU-7), located on the mesa and partially on BLM property. WMU-7 historically received solid waste from the RGS. A characterization report has been completed, and NV Energy is currently pursuing purchase of the land to allow for further investigation and possible remediation.

Extensive groundwater investigations were conducted between 2014 and 2025 to evaluate groundwater quality, site hydrogeology, and the effectiveness of ongoing remediation in the former Pond and Station Areas. These efforts included installation of 189 new monitoring wells, advancement of 271 soil borings, collection of groundwater samples at 439 discrete locations, and extensive surface and subsurface soil sampling. Additional studies along the Muddy River evaluated potential interactions between on-site groundwater and the river. River transects were surveyed at 11 locations along the Muddy River as well as downstream of the RGS and a total of 21 shallow piezometers and monitoring wells were installed to measure groundwater levels and collect constituent concentration data adjacent to the river.

NV Energy also conducted source-specific characterization activities between 2016 and 2025 in additional areas, including Hogan Wash, the Ranch Area east of the RGS, Units 1–3 Catch Basin, Unit 4 Treated Water Pond, Unit 4 Cooling Tower, Unit 4 Cooling Tower Catch Basin, Units 1–3 and Unit 4 Coal Pile Areas, Unit 4 Settling Pond, Unit 1–2 Emergency Diesel Generator, Units 1–3 Scrubbers, and the Unit 4 Absorber. Results of these investigations are documented in NDEP-approved source area characterization reports.

To date, NDEP has issued Investigation Closed (IC)[1] determinations for four areas: the Unit 4 Treated Water Pond, Unit 4 Cooling Tower, Units 1-3 Catch Basin, and a previously reported waste disposal area on the eastern portion of the RGS.

Characterization reports for the Unit 4 Cooling Tower Catch Basin and the Unit 4 Absorber Area are currently in progress.

Routine monitoring has also been conducted for more than 20 years and will continue throughout ongoing characterization and corrective action

[1] *NDEP issues a determination of Investigation Closed if investigations have been conducted to determine that no release occurred or that a suspected release did not constitute a reportable condition requiring further evaluation. ICs were issued by NDEP for SA-8 (Units 1, 2, 3 Catch Basin) and SA-17 (Reported Previous Waste Disposal Area) in 2016; and SA-1 (Unit 4 Treated Water Pond) and SA-2 (Unit 4 Cooling Tower) in 2019.*

efforts. The current monitoring network includes 249 active wells and 14 surface water locations, with results summarized annually in reports submitted to NDEP.

Characterization data collected and evaluated to date has supported development of three key tools for understanding environmental conditions at the site:

1. **Preliminary Geochemical Conceptual Site Model (CSM)** – completed in 2015 to evaluate geochemical mechanisms affecting contaminant transport. An updated Geochemical CSM is included in the site-wide CSM Report.

2. **Earth Volumetric Studio (EVS) Three-Dimensional Model** – used to visualize and evaluate hydrogeologic and groundwater data. This model is updated as new information becomes available.

3. **Site-wide CSM –** integrates data from multiple investigations to guide decisions regarding the need for additional site investigations and corrective actions.

The results of the site characterization and remediation activities have been summarized by NV Energy in a *Draft CSM Report*. The draft report was issued by NV Energy in sections on various dates and includes :

- Section 1 – Introduction (December 2022)
- Section 2 – Site Information and History (December 2022)
- Section 3 – Site Characterization, Monitoring, and Corrective Action Status (December 2022)
- Section 4 – Environmental Setting (December 2022)
- Section 5 – Conceptual Site Model Process (May 2024)
- Section 6 – Pond Area Conceptual Site Model (March 2025)
- Section 7 – Hogan Wash Conceptual Site Model (May 2024)
- Section 8 – Station Area Unit 4 Settling Pond Source Area Conceptual Site Model (October 2024)
- Section 9 – Units 1, 2, and 3, and Unit 4 Coal Pile Area Conceptual Site Model (February 2025)
- Section 10 – Units 1,2, and 3 Scrubbers and Unit 4 Absorber Conceptual Site Model (December 2024)
- Section 11 – Mesa Source Areas Groundwater Conceptual Site Model (December 2024)
- Section 12 – Mesa Source Area MA-7 Conceptual Site Model (May 2024)
- Section 13 – North Station Area Conceptual Site Model (November 2024)
- Section 14 – Future Source Area Investigations: Source Areas PA-4, SA-3, and SA-5/6 (October 2024)
- Section 15 – Muddy River Evaluation (January 2025)
- Section 16 – Synthesis of Conceptual Site Models (February 2025)
- Section 17 – Status of Source Areas, Data Gaps, and Recommendations (February 2025)
- Appendix A – AOC Documents and "Road Map" (December 2022)
- Appendix B – EVS Model Report (December 2022)
- Appendix C – Evaluation of the Effect of Variable Groundwater Density on the Interpretation of Groundwater Hydraulic Gradients (December 2022)
- Appendix D – Draft Geochemical CSM Report (December 2022)
- Appendix E – Pond and Station Area TDS Impacts Models (December 2022)
- Appendix F – Evaluation of Temporal Trends in Concentration in the Muddy River (December 2024)
- Appendix G – TDS Mass Flux and Discharge Estimations (July 2024)
- Appendix H – Trend Analysis of Mesa MA-1 to MA-9 Groundwater Data (December 2022)
- Appendix I – Plume Stability Analysis (November 2024)
- Appendix J – Electronic Files (Boring and HPT Logs, Four Interactive PDFs) (December 2022)

In parallel with the site characterization activities, NV Energy investigated and remediated areas affected by petroleum releases. In 1986, diesel fuel was discovered during a subsurface investigation at the RGS. The release originated from underground piping associated with a former 850,000-gallon aboveground diesel storage tank (AST) and former diesel underground storage tanks (USTs). The underground piping attributed to the release was removed from service and a diesel recovery system

was installed. The diesel recovery system operated from 1986 to 2015 and recovered an estimated 250,000 gallons of light non-aqueous phase liquid (LNAPL). The tanks and other structures associated with the former diesel recovery system were removed prior to plant demolition activities.

In August 2014, NV Energy initiated further investigation to evaluate petroleum residuals remaining after decades of active recovery. Field investigations included advancing direct push borings to evaluate subsurface impacts with a high-resolution data gathering tool designed to identify LNAPL in situ, advancing additional soil borings, installing and sampling monitoring wells, and evaluating the physical/fluid properties of the LNAPL.

Based on the petroleum residual data collected, an LNAPL assessment and LNAPL CSM were prepared. The objective of the LNAPL assessment was to build a more complete understanding of the nature, extent, mobility, and recoverability of LNAPL in the Station Area. The Draft LNAPL CSM was submitted to NDEP in January 2019. A revised Draft LNAPL CSM was submitted to NDEP in April 2021. Based on NDEP comments regarding the Revised Draft LNAPL CSM results, a supplemental oil recovery test project was initiated by NV Energy in June 2022. Following a 6-month post-removal monitoring period, the recovery test project was completed in June 2023. The results of the supplemental oil recovery test and all prior work related to petroleum releases were published in the Final LNAPL CSM Report, dated March 2024. The final report concluded that, "historical LNAPL recovery actions have addressed the readily recoverable mobile LNAPL, and further remedial actions will not materially change the site conditions or longevity of the LNAPL source material." Based on this conclusion, NDEP issued a preliminary No Further Action[2] (NFA) decision on November 1, 2024, pending primarily on NV Energy abandonment of 27 monitoring wells in the Petroleum Area and preparation of a "Soil and Groundwater Management Plan" for the area. Monitoring well abandonment was completed in January 2025 and the Soil and Groundwater Management Plan was submitted to NDEP on January 28, 2025. Based on review of the LNAPL CSM, the Soil and Groundwater Management Plan, as well as current land and groundwater uses, NDEP issued a final LNAPL NFA decision to NV Energy on June 25, 2025.

Corrective actions

As noted in the characterization activities section, petroleum-related groundwater impacts have been addressed at the RGS since 1986, when the diesel recovery system was installed. In addition to the groundwater corrective actions, petroleum-impacted soils were excavated in 2015 and 2016 from five areas where petroleum products were historically stored or handled during RGS operations. More than 13,000 cubic yards of impacted soil were removed from the former Units 1-3 Lube Oil Rack, Gasoline UST and Warehouse 1, Diesel Fuel Unloading Area, Free Product Recovery System, and Vehicle Maintenance Area. All excavated soil was disposed of off-site at a facility licensed to receive petroleum-contaminated soil.

In addition to the petroleum-related remediation, extensive closure activities have been completed in the Pond Areas. From 2010 through 2017, more than 2.1 million cubic yards of pond solids and underlying soils were excavated from the former evaporation ponds. All excavated materials were disposed of in HDPE-lined cells at the existing Mesa Landfill in accordance with all permit requirements. Pond solids removal activities included:

[2] *NDEP issues a determination of No Further Action if corrective actions have been completed and, based on final site conditions, no further evaluation or corrective action is necessary. NFAs were issued by NDEP for SA-10 (Former Units 1, 2, 3 Lube Oil Rack) in 2016; SA-11 (Former Gasoline Underground Storage Tank and Warehouse 1), SA-12 (Former Diesel Above Ground Storage Tank), SA-15 (Free Product Recovery System), and SA-16 (Vehicle Maintenance Area) in 2017; PA-8 (Hydrogen Peroxide Tank Release) in 2018; SA-9 (Units 1 and 2 Emergency Diesel Generator) and SA-13 (Former Diesel Fuel Unloading Area) in 2023; SA-7 (Unit 4 Settling Pond)in 2024; and SA-14 (Former Underground Product Piping and Petroleum Tanks) in 2025.*

- 2010: Removal of approximately 400,000 cubic yards of pond solids and underlying soils from former Ponds D and G.
- 2012 - 2013: Removal of approximately 24,000 cubic yards of pond solids and underlying soils from former Pond F.
- 2014 - 2015: Removal of approximately 1.3 million cubic yards of pond solids and underlying soils from former Ponds 4A, 4C1, 4C2, and E2.
- 2016 - 2017: Removal of over 400,000 cubic yards of pond solids and underlying soils from former evaporation Ponds 4B1, 4B2, 4B3, and E1.

Within the Station Area, ash/soil fill was historically used to level the ground surface in the Units 1-3 and Unit 4 Coal Pile Areas prior to stockpiling coal for combustion in the generating units. NV Energy conducted investigations in the Coal Pile Areas between 2016 and 2020 to estimate the quantity of ash/soil fill placed and associated impacts to soil and groundwater. Based on the results of these investigations, excavation began in December 2021 and continued through December 2022, as an interim corrective action step. Approximately 462,000 cubic yards of ash/soil fill were removed from Units 1-3 and Unit 4 Coal Pile Areas and were disposed in the Mesa Landfill. In addition, approximately 7,600 cubic yards of petroleum impacted ash/soil fill were excavated and disposed offsite at a facility licensed to receive petroleum-contaminated soil.

This work was followed in 2024 by additional excavation of approximately 57,000 cubic yards of ash/soil fill from primarily Pond Area berms. In 2025, approximately 114,000 cubic yards of ash/soil fill were excavated from the Ash Storage Pond (ASP) 2 and 3 Areas in the North Station. Materials excavated in 2024 and 2025 were disposed of in lined cells at the Mesa Landfill.

Corrective actions completed by NV Energy have resulted in NFA determinations being issued by NDEP for the following 10 areas: Hydrogen Peroxide Tank Release, Unit 4 Settling Pond, Units 1-2 Emergency Diesel Generator, Units 1-3 Lube Oil Rack, Gasoline UST and Warehouse 1, Diesel AST, Diesel Unloading, Former Underground Product Piping and Petroleum Tanks, Free Product Recovery System, and Vehicle Maintenance and Warehouse No 3 Areas. Additional closure work and corrective actions are expected to be implemented in the future following completion of further site characterization activities, risk assessments, and evaluation of remedial alternatives for remaining areas of concern.

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