

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET (pursuant to NAC 445A.236)

Permittee Name: NV Energy (formerly Nevada Power Company)
6226 W. Sahara Ave.
Las Vegas, Nevada 89146

Permit Number: NEV91022

Location: The Reid Gardner Station is located in the Moapa Valley at I-15 North, Exit 88 (Wally Kay Road), 60 miles northeast of Las Vegas, in Clark County, Nevada. US Highway I-15 is about 2 miles east of the plant site, and State Route 168 is about 2 miles northeast of the facility. The site is accessed from I-15 by a light duty asphalt road that serves a nearby industrial facility.

Facility Location: Latitude: 36° 39' 30"N; Longitude: 114° 38' 20"W
Section 5, T 15S, R 66E MDB&M

Discharge Locations:
Existing ponds: F, B-1, B-2, B-3, C-1, C-2, E-1 & E-2 and future ponds: M-1, M-2 & M-3
Sections 5, 6 & 8, T 15S, R 66E MDB&M

General: Reid Gardner Station is a 4 unit 650 MW coal fired power plant on 480 acres in Moapa Valley. The Muddy River crosses the site, as does Union Pacific Railroad's Las Vegas -Salt Lake City line. The plant is surrounded by BLM land to the north and south, Paiute agricultural land and residences on the west, and an inactive dairy farm on the east. The first unit was placed in service in 1965 and the fourth unit came online in 1983. Coal is brought in by rail. The water supply is taken from the Muddy River, and from a well field near its' headwaters, with 8300 acre-feet per year (AFY) used for steam generation, cooling, emission control scrubbers, bottom ash transport, and dust control.

Electric power is generated by burning coal to boil water and using the steam to power turbines. After that the steam is condensed, passed through a cooling tower, and run back through the boilers. As coal is burned, flue gas, fly ash and bottom ash exit the boiler. Bottom ash is too heavy to be carried by the flue gas and exits the boiler via a bottom hopper for hydraulic transport to dewatering bins. Cooling tower blow down supplies the scrubbers and bottom ash transport system. Due to the recent installation of baghouses on Units 1-3, 99% of the fly ash is removed, reducing the total amount of fly ash delivered to the ponds. 88,000 gallons per day (gpd) is removed from the bottom ash system to use for dust control on site, and at the nearby landfill. An additional 15,000 gpd from an onsite groundwater diesel treatment is used for dust control on coal piles and landfill haul roads. The scrubbers and boiler bleed off discharge to settling Pond F, with overflow directed to the evaporation ponds.

Beginning in 1997 the Division has required the originally unlined or clay lined ponds to be dried, cleaned and either reconstructed with double liners and leak detection and collection, or removed from service. Since then, all ponds have either had double HDPE liners installed or have been removed from service. No unlined ponds used for storage and evaporation under previous permits are permitted for discharge under this permit. Ponds solids removal and remediation of the formerly used unlined ponds, including the most recently closed ponds, D & G, are being addressed by the Division's Bureau of Corrective Actions (BCA). All past and existing groundwater and/or soil contamination issues are being addressed by the BCA, with approval, oversight and inspection being conducted by the BCA. Ponds D and G, and all other previously used unlined ponds are considered closed by the Bureau of Water Pollution Control. The eight current evaporation ponds (Ponds F, B-1, B-2, B-3, C-1, C-2, E-1 and E-2) were cleaned and double-lined; during this permit lifetime three additional evaporation ponds (M-1, M-2 and M-3) are being constructed in stages in the upland Mesa area, on a 555-acre grant of BLM-leased land. This land has much greater depths to groundwater (approximately 150 ft) than the former evaporation and settling ponds located in the floodplain. The active discharge ponds collectively have approximately 95 acres of surface area. All of the active and proposed ponds are individually lined with two geomembrane liners, a 60-mil HDPE primary liner and a 40-mil HDPE secondary liner with an interstitial leak detection system. Leakage rates greater than 500 gpd/acre will be reported to the Division within 24 hours.

The Permittee has applied for renewal of the permit to discharge the facility waste streams to the evaporation ponds, and for dust control use.

Receiving Water Characteristics: Groundwater below the plant and nearby upland evaporation pond area ranges from less than 5 feet below ground surface to 150 feet below ground surface. There are no public supply wells within 6000 feet of the facility. All off site wells are located more than one mile downstream from the plant, with the closest domestic wells over two miles away. Water quality standards for the reach through the power plant property are given at Nevada Administrative Code (NAC) 445A.210, Muddy River at Glendale Bridge. In addition, the state wide standards for toxic materials, NAC445A.144, are applicable.

Description of Discharge: Wastewater is generated primarily from the wet scrubbers, cooling tower blowdown and fly ash residue. Discharge is to one or more double-lined (60-mil and 40-mil HDPE) evaporation ponds. Incident stormwater and runoff from the facility is also drained to the evaporation ponds.

Discharge Water Characteristics:

Flow: Monitor and Report. A flow of 0.576 MGD (400 gpm) is the maximum daily flow for disposal to the ponds; the 30-day average flow is 0.490 MGD (340 gpm). Current operational daily maximum flow is 0.379 MGD, (263 gpm).

NV Energy – Reid Gardner Station

FACT SHEET –NEV91022

Page 3

Leakage Rates: A maximum of 500 gpd/acre is allowed; leakage rates greater than 500

		above plant	spring	below plant
Al	mg/L	0.76	1.58	0.91
As	mg/L	0.020	0.22	0.034
Ba	mg/L	0.051	0.029	0.047
B	mg/L	0.48	3.7	0.52
Ca	mg/L	79	212	70
Cl	mg/L	67	406	77
Cr	mg/L	0.0037	0.0116	0.0037
Fe	mg/L	0.57	1.21	0.58
Pb	mg/L			0.0063
Mg	mg/L	31	163	31
Mn	mg/L		0.12	
Hg	mg/L	0.00089		
Mo	mg/L	0.0085	0.069	0.0095
K	mg/L	13	49	13
Se	mg/L	0.0014	0.0163	0.0099
Na	mg/L	113	973	120
Ti	mg/L	0.042	0.058	0.023
V	mg/L	0.0038	0.031	0.0039
NH ₃ -N	mg/L	0.22	0.242	0.212
NO ₂ -N	mg/L	0.28		0.11
NO ₃ -N	mg/L	0.35	1.03	0.41
TKN	mg/L		0.691	0.212
TN	mg/L	0.54	1.542	0.638
TP	mg/L	0.104	0.098	0.047
SO ₄	mg/L	202	2092	235
TDS	mg/L	634	4058	712
Hardness	mg/L as CaCO ₃	283	1173	299
pH	Standard units	8.1	7.7	8.2

Flow is to be reported for tracking purposes. Analytical data is required for dust abatement on unlined areas. Leachate analyses characterize the potential threat to underlying aquifers.

The Bureau of Corrective Action's site characterization program is now well underway; the previous permit's requirement to report on the extensive monitor well network is no longer needed and has been removed.

NV Energy – Reid Gardner Station

FACT SHEET –NEV91022

Page 5

The data shows most spring constituent concentrations exceed those of the river, usually by a fairly large amount, and downstream concentrations exceed upstream for about half of the parameters.

Procedures for Public Comment: The notice of the Division's intent to issue a permit authorizing the facility to discharge to the evaporation pond cells subject to the conditions contained within the

permit, is being sent to the **Las Vegas Review-Journal** and the **Moapa Valley Progress** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing or by phone/FAX for a period of 30 days following the date of the public notice, by **11/30/2009**. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted. All public hearings must be conducted in accordance with NAC 445A.238. The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination: The Division has made the tentative determination to reissue the proposed permit for a 5-year period.

Prepared by: Jeryl Gardner, P.E.
Bureau of Water Pollution Control
(10/09)