

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(pursuant to NAC 445A.236)

Applicant: NV Energy
6226 W. Sahara Ave.
Las Vegas, NV 89146

Permit Number: NEV40034

Location: NV Energy Sunrise Generating Station
6300 Vegas Valley Drive
Las Vegas, NV 89122
Latitude: 36° 08' 06" N, Longitude: 115° 03' 14" W
NE ¼ Section 10, T21S, R62E MDB&M

Evaporation/Storage Ponds (Sampling Locations):

001: Pond A Sampling Location

Latitude: 36° 08' 20.00" N, Longitude: 115° 02' 11.66" W

002: Pond B Sampling Location

Latitude: 36° 08' 17.74" N, Longitude: 115° 02' 11.68" W

General: The Permittee, NV Energy (NVE), owns and operates the Sunrise Generating Station (Sunrise) at 6300 Vegas Valley Drive, in Las Vegas, Clark County, Nevada. Sunrise consists of two gas-fired power-generating units (Units 1 and 2), with a rated capacity of 399 megawatts total output. Sunrise typically operates at very low loads or is shut down during the fall and winter months. Sunpeak Generating Station, located on the same property but not owned by NVE, consists of three gas-fired units that are not part of the Sunrise Station.

Sunrise currently operates and uses two on-site storage ponds for evaporation or reuse at the facility: Pond A (evaporation and settling) and Pond B (raw water storage). Potable water is delivered by the Las Vegas Valley Water District for use in the cooling system and for domestic purposes. The following discharges are allowed under the permit: cooling tower blow down water, boiler blow down water, evaporation cooler blow down water, air wash blow down, washdown and floor drain water, high TDS-containing Reverse Osmosis (RO) brine reject water, and effluent from oil/water separators from Sunrise Units 1 & 2 and Sunpeak Units 3, 4, and 5 to Pond A (Outfall 001), and to Pond B (Outfall 002) for evaporation or reuse at Sunrise; tertiary treated effluent from the City of Las Vegas or the Clark County Advanced Wastewater Treatment (AWT) plant to Pond B (Outfall 002), and Sunpeak evaporation cooler blow down, air wash blow down, and Sunpeak RO reject water to Pond A (Outfall 001) for cooling water make-up or to Pond B (Outfall 002) for treatment; Pond A and Pond B water, exported to Clark Station ponds (A and/or B {Outfall 003}), permit number NEV40035, where it is further treated in the Clark Station water treatment plant for reuse at Clark. If the Sunrise cooling tower is not operating, the small amount of wastewater that goes into Pond A will evaporate in the pond, and pumping to Outfall 003 is not necessary. Sunrise Pond A is lined with 60-mil HDPE and Pond B is asphalt-lined. A system of groundwater monitoring wells at Sunrise provides groundwater quality information and evidence of pond liner leakage if leaks occur. Solid waste is disposed of in a manner approved by the Southern Nevada Health District.

NVE has applied for renewal of a 5-year Groundwater Discharge Permit, NEV40034, to discharge treated effluent and untreated industrial cooling tower water from facility operations, to the on-site storage impoundments, for evaporation and/or reuse in facility operations, as described above.

Flow: The facility’s design treatment capacity is rated at 0.432 million gallons per day (MGD). Current operational daily flow (Pond A wastewater) is 0.161 MGD. The daily maximum flow rate and the 30-day average flow rate are requested at 0.432 MGD.

Site Groundwater: The water table is approximately 18 feet below ground surface. A series of wells in and around the facility provide groundwater quality information on a quarterly basis; data has been collected since 2003. Historic data indicate elevated concentrations of TDS, sulfate, chloride, nitrate, magnesium, sodium, and calcium.

Corrective Action Sites: There is one Bureau of Corrective Actions (BCA) remediation site within a one-mile radius of the facility, and it is at the Sunrise Generating Station. The BCA case officer has stated that they do not expect any impacts on the remediation activities due to the discharge to the evaporation and storage ponds.

Well Head and Drinking Water Supply Protection: The facility is not within 6,000 feet of a public water supply, or a drinking water protection area (DWPA). The facility is not within an established Wellhead Protection Area (WHPA).

Proposed Effluent Limitations, Sampling and Monitoring Requirements: During the period beginning on the effective date of this permit and lasting until the permit expires, the Permittee is authorized to discharge treated effluent and non-treated industrial process water to the on-site ponds for evaporation and/or reuse. Quarterly/annual sampling and monitoring of the Ponds for the parameters listed below is required by the permit.

Table I. Effluent Limitations, Sampling and Monitoring Requirements

Parameters	Units	Effluent Limitations		Monitoring Requirements		
		30-Day Average	Daily Maximum	Sampling Locations	Monitoring Frequency	Monitoring Type
Discharge Flow Rate ¹	MGD	0.432	0.432	Σ (001, 002, + 003)	Continuous	Meter
pH –SV ²	S.U.	---	M&R	001, 002	Quarterly	Discrete
Temperature ²	°C	---	M&R	001, 002	Quarterly	Discrete
Total Hardness as CaCO ₃ ²	mg/l	---	M&R	001, 002	Quarterly	Discrete
Bicarbonate Alkalinity ²	mg/l	---	M&R	001, 002	Quarterly	Discrete
Nitrate as N ²	mg/l	---	M&R	001, 002	Quarterly	Discrete
Sulfate ²	mg/l	---	M&R	001, 002	Quarterly	Discrete
TDS ²	mg/l	---	M&R	001, 002	Quarterly	Discrete
TPH ²	mg/l	---	M&R	001, 002	Quarterly	Discrete
Priority Pollutant Metals ³	mg/l	---	M&R	001, 002	Annually	Discrete
Total Volume of Sludge Removed ⁴	tons	---	M&R	Σ (001 + 002)	Annually	Discrete

NOTES: 001 = Sunrise Pond A; 002 = Sunrise Pond B; 003 = Clark Ponds A&B

MGD: million gallons per day
 mg/l: milligrams per liter

M&R: Monitor & Report
 SV: single value

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S.U.: Standard pH units

TDS: Total Dissolved Solids

TPH: Total Petroleum Hydrocarbons, purgeable and extractable, C6-C40

Σ: Summation symbol

1. Monitor continuously, as discharge occurs, and report quarterly, total combined daily discharge to all ponds. Report quarterly, the daily maximum, and 30-day average discharge rates for each month.
2. Sample and analyze the Sunrise ponds once per quarter and report quarterly, for each of the parameters listed above. Report values as daily maximums.
3. Sample and analyze the Sunrise ponds, once in each calendar year 4th quarter, and report in January each year, the following metals: Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, and Zinc.
4. Monitor the volume of sludge removed from each Sunrise pond as it is removed for disposal, and report annually the total volume of sludge removed from the Sunrise ponds.

Quarterly/annual monitoring and sampling of each of the Sunrise monitoring wells is required for the parameters listed below.

Table II. Monitoring Well Sampling and Reporting Requirements

Parameters	Units	Effluent Limitations		Monitoring Requirements		
		30-Day Average	Daily Maximum	Sampling Locations	Monitoring Frequency	Monitoring Type
Depth to groundwater ¹	ft	M&R	M&R	All	Continuous	Meter
Groundwater elevation ¹	ft	M&R	M&R	All	Continuous	Calculation
pH –SV ²	S.U.	---	M&R	All	Quarterly	Discrete
Total Hardness as CaCO ₃ ²	mg/l	---	M&R	All	Quarterly	Discrete
Calcium ²	mg/l	---	M&R	All	Quarterly	Discrete
Chloride ²	mg/l	---	M&R	All	Quarterly	Discrete
Sodium ²	mg/l	---	M&R	All	Quarterly	Discrete
Magnesium ²	mg/l	---	M&R	All	Quarterly	Discrete
Bicarbonate ²	mg/l	---	M&R	All	Quarterly	Discrete
Nitrate as N ²	mg/l	---	M&R	All	Quarterly	Discrete
Sulfate ²	mg/l	---	M&R	All	Quarterly	Discrete
TDS ²	mg/l	---	M&R	All	Quarterly	Discrete
Priority Pollutant Metals ³	mg/l	---	M&R	All	Annually	Discrete

NOTES: All = Monitoring Wells: MW-NW, MW-SW, MW-S, MW-SE, MW-SW-94, MW-1-94, and MW-2-94.

MGD: million gallons per day

mg/l: milligrams per liter

S.U.: Standard pH units

M&R: Monitor & Report

SV: single value

TDS: Total Dissolved Solids

1. Measure depth to groundwater and calculate groundwater elevation, at time of sampling, and report quarterly on DMR Form.
2. Sample and analyze each of the wells once per quarter and report quarterly, for each of the parameters listed above. Report values as daily maximum values.
3. Sample and analyze in each calendar year 4th quarter, and report in January each year, the following metals: Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, and Zinc. Metals shall be total, recoverable.

Rationale for Permit Requirements: The Division has established the monitoring requirements in Table I. to ensure that waters of the State are not degraded as a result of project activities.

Flow: The total daily maximum flow rate and the 30-day average flow rates are requested and permitted at 0.432 MGD.

pH: M&R. Sample quarterly to provide additional information on Pond supernatant quality.

Temperature, Total Hardness, Bicarbonate Alkalinity, Nitrate, Sulfate, and TDS: M&R. Sample quarterly to gain additional information on Pond supernatant quality.

TPH: M&R. Sample annually to gain information on Pond supernatant quality. Historic data shows no exceedances of State water quality standards.

Priority Pollutant Metals: M&R. Sample annually to gain information on Pond supernatant quality. Historic data shows no exceedances of State water quality standards.

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications which the Administrator may make in approving the schedule of compliance:

- The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit.
- Within 90 days of the permit effective date (**November 9, 2011**), the Permittee shall submit to the Division, for review and approval, an updated Operations & Maintenance (O&M) Manual prepared in accordance with the Division's WTS-2 guidance: *Minimum Information Required for an Operations and Maintenance Manual*. The O&M Manual shall include information on the operation and maintenance of the impoundment and leakage collection and detection system.

All schedule of compliance submittals and evidence of compliance documents shall be submitted to the Division of Environmental Protection at the address listed below:

**Division of Environmental Protection
Bureau of Water Pollution Control
ATTN: Compliance Coordinator
901 S. Stewart Street, Suite 4001
Carson City, Nevada 89701**

Before implementing changes to an approved O&M Manual, the Permittee shall submit proposed changes to the Division for review and approval.

Proposed Determination: The Division has made the tentative determination to renew the proposed discharge permit for a period of five (5) years.

Procedures for Public Comment: The Notice of the Division's intent to issue a renewal groundwater discharge permit authorizing this facility to discharge to groundwaters of the State for a five-year period, subject to the conditions contained within the permit, is being sent to the **Las Vegas Review Journal** 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 for a period of thirty (30) days following the date of publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **August 1, 2011 by 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator 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.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. 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.

Prepared by: Jeryl R. Gardner, P.E.
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