



FACTSHEET
(pursuant to NAC 445A.236)

Permittee Name: SDG&E: DESERT STAR ENERGY CENTER
P.O. BOX 62470
BOULDER CITY, NV - 89006

Permit Number: NS0098011

Location: DESERT STAR ENERGY CENTER, CLARK
701 ELDORADO VALLEY DRIVE, BOULDER CITY, NV - 89005
LATITUDE: 35.788056, LONGITUDE: -114.993333
TOWNSHIP: 25S, RANGE: 62E, SECTION: 12

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Outfall City	Outfall State	Outfall Zip	Outfall County	Latitude	Longitude	Receiving Water
001	POND 1	Surface Disposal Site		BOULDER CITY	NV	89005	CLARK	35.786892	-114.991552	GROUNDWATER
002	POND 2	Surface Disposal Site		BOULDER CITY	NV	89005	CLARK	35.788595	-114.991555	GROUNDWATER
003	POND 3	Surface Disposal Site		BOULDER CITY	NV	89005	CLARK	35.790155	-114.991525	GROUNDWATER
004	DISCHARGE TO PONDS 1, 2, & 3	Sum		BOULDER CITY	NV	89005	CLARK	35.788595	-114.991555	GROUNDWATER

General:

San Diego Gas & Electric (SDG&E) owns and operates the Desert Star Energy Center (DSEC), a 490-megawatt (MW) natural gas-powered electric generation facility located in Boulder City, Nevada, approximately 40 miles southwest of Las Vegas. The DSEC consists of two 150-MW combustion turbines, two natural-circulation supplementary-fired heat recovery steam generators, and one 190-MW steam turbine generator with an air-cooled condenser. The combustion turbines are designed to burn natural gas.

Water supplied to the DSEC is purchased from Boulder City, delivered to the DSEC via pipeline, and used directly for potable and service water. Some water is demineralized by a reverse osmosis and ion exchange treatment process prior to use as boiler feed water. A mixture of potable water and demineralized water is used as makeup water for the evaporative cooler. Water collected in drains is passed through an oil/water separator before being pumped into the evaporation ponds. Each of the three ponds has a surface area of 8 acres and is double-lined with two 60-mil high-density polyethylene geomembrane liners. A leak detection and removal system is installed between the two liners to detect and automatically remove water that leaks through the primary liner. The primary liner is covered with a 12-inch thick layer of prepared cover material to prevent wind uplift, mechanical damage, and other types of damage. The interior side slopes are covered with riprap to limit solar exposure and to prevent wind and water erosion of the liner material. A rock-surfaced road surrounds the top of all berms to provide maintenance access. The exterior surface of the pond berms are covered with a 6-inch layer of coarse rock for erosion protection. The entire pond area is fenced with a 6-foot high chain link fence topped with barbed wire.

SDG&E has applied for renewal of the permit to continue discharge of the DSEC waste streams to the evaporation ponds for disposal via evaporation.

Discharge Characteristics:

The discharge to the evaporation ponds consists of evaporative cooler water, floor drain water, washdown

water, reverse osmosis reject water, oil/water separator water, incidental stormwater, and runoff from the concrete pads under the turbines. Average discharge characteristics for select parameters monitored and reported between the third quarter of 2010 and the second quarter of 2015 are listed below.

Total Dissolved Solids: 818 mg/L
pH: 8.21 standard units
Oil & Grease: 6.2 mg/L
Total Petroleum Hydrocarbons: 2.86 mg/L
Temperature: 77.8 °F

Receiving Water:

The receiving water is groundwater of the State underlying the DSEC. Groundwater in the area is more than 300 feet below ground surface.

Summary of Changes From Previous Permit:

The name of the facility has been changed from “El Dorado Energy Power Plant” to “Desert Star Energy Center”.

A daily maximum flow rate limit of 0.84 MGD has been added.

The requirement to monitor and report temperature in the pond receiving the discharge at the time of sampling has been removed.

The requirement to report the water level in each pond has been removed; the water level in each pond shall be measured and recorded in accordance with the permit.

The requirement to monitor and report the freeboard in each pond has been added and, in accordance with the permit, the minimum freeboard depth requirement has been changed from two feet to three feet.

The due date for the annual waste removal report has been changed to coincide with the due date for the fourth quarter Discharge Monitoring Report (January 28) instead of the due date for the second quarter Discharge Monitoring Report.

The action leakage rate has been changed from 40 gallons/minute/pond to that described in the permit.

Due to the new naming conventions at the Nevada Division of Environmental Protection (NDEP), Bureau of Water Pollution Control, the permit number has been changed from NEV98011 to NS0098011. This change does not reflect a change in the type of permit being issued.

Proposed Effluent Limitations:

The discharge shall be limited and monitored by the Permittee as specified below:

Ponds / Rapid Infiltration Basins for Sample Location 001 (Pond 1) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Freeboard	Minimum		>= 3 Feet (ft)	See Footnote ^[1]	001	Quarterly	VISUAL

Notes (Ponds / Rapid Infiltration Basins):

- Freeboard shall be monitored at the Pond 1 staff gauge.

Ponds / Rapid Infiltration Basins for Sample Location 002 (Pond 2) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Freeboard	Minimum		>= 3 Feet (ft)	See Footnote ^[1]	002	Quarterly	VISUAL

Notes (Ponds / Rapid Infiltration Basins):

- Freeboard shall be monitored at the Pond 2 staff gauge.

Ponds / Rapid Infiltration Basins for Sample Location 003 (Pond 3) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Freeboard	Minimum		>= 3 Feet (ft)	See Footnote ^[1]	003	Quarterly	VISUAL

Notes (Ponds / Rapid Infiltration Basins):

- Freeboard shall be monitored at the Pond 3 staff gauge.

Ponds / Rapid Infiltration Basins for Sample Location 004 (Discharge To Ponds 1, 2, & 3) To Be Reported Monthly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	004	Monthly	CALCTD
Flow rate	Daily Maximum	<= 0.84 Million Gallons per Day (Mgal/d)		Effluent Gross	004	Monthly	CALCTD

Ponds / Rapid Infiltration Basins for Sample Location 004 (Discharge To Ponds 1, 2, & 3) To Be Reported Quarterly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Hydrocarbons, total petroleum	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[1]	004	Quarterly	DISCRT
Temperature, water deg. fahrenheit	Value		M&R Degrees Fahrenheit (deg F)	Effluent Gross ^[1]	004	Quarterly	DISCRT
Solids, total dissolved	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[1]	004	Quarterly	DISCRT
pH	Value		M&R Standard Units (SU)	Effluent Gross ^[1]	004	Quarterly	DISCRT

Notes (Ponds / Rapid Infiltration Basins):

1. Prior to discharge into the evaporation pond(s)

Ponds / Rapid Infiltration Basins for Sample Location 004 (Discharge To Ponds 1, 2, & 3) To Be Reported Annually^[1]

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Chromium, total (as Cr)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	004	Annual ^[3]	DISCRT
Mercury, total (as Hg)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	004	Annual ^[3]	DISCRT
Nickel, total (as Ni)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	004	Annual ^[3]	DISCRT
Selenium, total (as Se)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	004	Annual ^[3]	DISCRT
Silver, total (as Ag)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	004	Annual ^[3]	DISCRT
Thallium, total (as Tl)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	004	Annual ^[3]	DISCRT
Zinc, total (as Zn)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	004	Annual ^[3]	DISCRT
Oil & grease	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	004	Annual ^[3]	DISCRT
Antimony, total (as Sb)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	004	Annual ^[3]	DISCRT
Arsenic, total (as As)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	004	Annual ^[3]	DISCRT
Beryllium, total (as Be)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	004	Annual ^[3]	DISCRT
			M&R				

Ponds / Rapid Infiltration Basins for Sample Location 004 (Discharge To Ponds 1, 2, & 3) To Be Reported Annually^[1]

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Cadmium, total (as Cd)	Value		Milligrams per Liter (mg/L)	Effluent Gross ^[2]	004	Annual ^[3]	DISCRT
Copper, total (as Cu)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	004	Annual ^[3]	DISCRT
Lead, total (as Pb)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	004	Annual ^[3]	DISCRT

Notes (Ponds / Rapid Infiltration Basins):

1. The analysis results for oil & grease and the listed priority pollutant metals shall be reported annually in the fourth quarter report.
2. Prior to discharge into the evaporation pond(s)
3. During the fourth quarter

Rationale for Permit Requirements:

Monitoring is required to verify the quantity and quality of the discharge into the evaporation ponds, and to ensure that the underlying groundwater will not be degraded should a catastrophic leak in the liner system occur.

Special Conditions:

Substantial compliance with the current permit is a condition of permit renewal.

SA – Special Approvals / Conditions Table

There are no Special Approval / Condition items

Flow:

Daily Maximum Flow Rate \leq 0.84 MGD

Corrective Action Sites:

There is one Bureau of Corrective Actions (BCA) remediation site (H-000863) located within one-mile of the DSEC. The BCA has indicated that it does not anticipate the permitted discharge activity to affect remediation activities at this site.

Wellhead Protection Program:

The DSEC is not located within a Wellhead Protection Area or a Drinking Water Protection Area.

Schedule of Compliance:

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	The Permittee shall submit two copies of a new Operations and Maintenance (O&M) Manual to the Division. The O&M Manual shall be prepared in accordance with the relevant sections of guidance document <i>WTS-2: Minimum Information Required for an Operation and Maintenance Manual for a Wastewater Treatment Plant</i> .	5/28/2016

Deliverable Schedule:

DLV– Deliverable Schedule for Reports, Plans, and Other Submittals

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly Discharge Monitoring Report	Quarterly	4/28/2016
2	Annual Report	Annually	1/28/2017
3	Annual Waste Removal Report	Annually	1/28/2017

Procedures for Public Comment:

The Notice of the Division's intent to issue a permit authorizing the facility to discharge to groundwater of the State of Nevada 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 until 5:00 P.M. **1/15/2016**, a period of 30 days following the date of the public notice. 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, the Regional Administrator of EPA Region IX 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 determined to be appropriate. All public hearings must be conducted to 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 issue / re-issue the proposed 5-year permit.

Prepared by: **Alan Pineda**

Date: **12/7/2015**

Title: **Staff I Associate Engineer**