



FACTSHEET
(pursuant to NAC 445A.236)

Permittee Name: SIERRA PACIFIC POWER COMPANY DBA NV ENERGY
6226 WEST SAHARA AVENUE
LAS VEGAS, NV - 89146

Permit Number: NS0095001

Location: FORT CHURCHILL GENERATING STATION, LYON
1000 SIERRA WAY, YERINGTON, NV - 89447
LATITUDE: 39.128109, LONGITUDE: -119.132045
TOWNSHIP: 15N, RANGE: 25E, SECTION: 25

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Outfall City	Outfall State	Outfall Zip	Outfall County	Latitude	Longitude	Receiving Water
001	FORT CHURCHILL POND	Surface Disposal Site		YERINGTON	NV	89447	LYON	39.116111	-119.130278	GROUNDWATER
002	EVAPORATION POND	Surface Disposal Site		YERINGTON	NV	89447	LYON	39.128333	-119.130278	GROUNDWATER
003	MVWMA - NORTH POND	Surface Disposal Site		YERINGTON	NV	89447	LYON	39.120278	-119.128333	GROUNDWATER
004	ON-SITE DUST CONTROL & FIREFIGHTING	External Outfall		YERINGTON	NV	89447	LYON	39.128109	-119.132045	GROUNDWATER
005	COOLING POND	External Outfall		YERINGTON	NV	89447	LYON	39.121557	-119.131869	GROUNDWATER
006	SUM OF THE DISCHARGE TO OUTFALLS 001, 003, & 008	Sum		YERINGTON	NV	89447	LYON	39.128109	-119.132045	GROUNDWATER
007	OFF-SITE DUST CONTROL & FIREFIGHTING	External Outfall		YERINGTON	NV	89447	LYON	39.128109	-119.132045	GROUNDWATER
008	MVWMA - UPPER GADWALL POND, LOWER GADWALL POND, & SHOVELLER POND	Surface Disposal Site		YERINGTON	NV	89447	LYON	39.120278	-119.128333	GROUNDWATER
MW1	MW-1	Monitoring Well		YERINGTON	NV	89447	LYON	39.129357	-119.127668	GROUNDWATER

General:

Sierra Pacific Power Company, doing business as NV Energy, has applied for the renewal of permit NS0095001 for the Fort Churchill Generating Station (FCGS) in Yerington, Nevada. The FCGS is a clean-burning natural gas-fueled power plant that uses two boilers to produce high pressure steam to drive two 113-megawatt turbine generators.

Process wastewater from the FCGS is discharged to an on-site double-lined evaporation pond for disposal via evaporation. Water from the FCGS cooling pond is discharged to the Fort Churchill Pond and Mason Valley Wildlife Management Area (MVWMA) North Pond and is also used for on-site dust control and firefighting. This permit renewal also authorizes the discharge of water from the cooling pond to the MVWMA Upper Gadwall Pond, Lower Gadwall Pond, and/or Shoveller Pond, as well as the use of cooling pond water for off-site dust control and firefighting.

Discharge Characteristics:

The following average effluent characteristics were calculated from values reported between the third

quarter of 2010 and the second quarter of 2015 for the discharge from the cooling pond to the Fort Churchill Pond and North Pond:

Arsenic: 0.12 mg/L
Fluoride: 4.2 mg/L
Chloride: 36 mg/L
Sulfate: 150 mg/L
Iron: 1.74 mg/L
Sodium: 116 mg/L
Total Dissolved Solids (TDS): 479 mg/L
Boron: 0.84 mg/L
Zinc: 0.051 mg/L
Molybdenum: 0.047 mg/L
Mercury: 0.0001 ppb
Fecal Coliform: 1.9 CFU/100mL

The following average effluent characteristics were calculated from values reported between the third quarter of 2010 and the second quarter of 2015 for the discharge to the evaporation pond:

TDS: 120,842 mg/L
pH: 6.95 standard units (SU)
Sulfate: 59,579 mg/L
Oil & Grease: 5.0 mg/L
Total Petroleum Hydrocarbons: 0.6 mg/L

No exceedances of the permit limits for the listed parameters occurred between the third quarter of 2010 and the second quarter of 2015.

Receiving Water:

The receiving water is groundwater of the State. The groundwater reportedly flows east. Average values for groundwater monitoring parameters reported between the third quarter of 2010 and the second quarter of 2015 are listed below.

Depth to Groundwater: 4.7 feet
pH: 7.54 SU
TDS: 505 mg/L
Sodium: 145 mg/L
Sulfate: 148 mg/L
Chloride: 36 mg/L
Calcium: 35 mg/L
Magnesium: 15 mg/L

Summary of Changes From Previous Permit:

The flow rate reporting frequency has been changed from quarterly to monthly.

The flow rate measurement frequency for Outfall 001 (Fort Churchill Pond) has been changed from weekly to monthly.

A minimum freeboard requirement of 2 feet has been added to the discharge limitations table for Outfall 002 (evaporation pond); the 2-foot freeboard requirement has been retained from the previous permit.

A minimum freeboard requirement of 3 feet has been added to the discharge limitations table for Outfall 005 (cooling pond).

A liner leakage rate limit of 500 gallons per acre per day has been added to the discharge limitations table for Outfall 002 (evaporation pond).

Monitoring requirements and limits for the following parameters have been added to the discharge limitations tables for Outfall 003 in accordance with the standards of water quality for the North Pond (NAC 445A.1918): temperature, pH, dissolved oxygen, total phosphorus, total ammonia, TDS, E. coli, and fecal coliform.

The requirement to monitor and report arsenic and boron has been added to the permit due to the 303(d) listing of these parameters as pollutants of concern in the North Pond.

The requirement to calculate and report the discharge load (lb/yr) for several parameters has been removed.

The requirement to compare sample analyses from the Fort Churchill Pond to sample analyses from the cooling pond has been removed.

The requirement to monitor and report the groundwater elevation has been removed.

Authorization to use cooling pond water for off-site dust control and firefighting has been added.

Authorization to discharge water from the cooling pond to the Upper Gadwall Pond, Lower Gadwall Pond, and Shoveller Pond has been added; monitoring requirements and limits for this discharge (Outfall 008) are in accordance with the standards of water quality in NAC 445A.1922.

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 NEV95001 to NS0095001. 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:

Groundwater Monitoring Wells Table for Sample Location Mw1 (Monitoring Well Mw-1) To Be Reported Quarterly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Specific conductance	Quarterly Maximum		M&R Conductance-Micromhos per cm (uS/cm)	Groundwater	MW1	Quarterly	DISCRT
Depth to water level ft below landsurface	Quarterly Maximum	M&R Feet (ft)		Groundwater	MW1	Quarterly	VISUAL ^[1]
pH	Quarterly Maximum		M&R Standard Units (SU)	Groundwater	MW1	Quarterly	DISCRT
Solids, total dissolved	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Quarterly	DISCRT
Sodium, total (as Na)	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Quarterly	DISCRT
Sulfate, total (as SO ₄)	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Quarterly	DISCRT
Chloride (as Cl)	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Quarterly	DISCRT
Calcium, total (as Ca)	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Quarterly	DISCRT
Magnesium, total (as Mg)	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Quarterly	DISCRT

Notes (Groundwater Monitoring Wells Table):

1. Field measurement

Groundwater Monitoring Wells Table for Sample Location Mw1 (Monitoring Well Mw-1) To Be Reported Annually^[1]

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Antimony, total (as Sb)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Annual	DISCRT
Arsenic, total (as As)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Annual	DISCRT
Beryllium, total (as Be)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Annual	DISCRT
Cadmium, total (as Cd)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Annual	DISCRT
Chromium, total (as Cr)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Annual	DISCRT
Copper, total (as Cu)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Annual	DISCRT
Lead, total (as Pb)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Annual	DISCRT
Mercury, total (as Hg)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Annual	DISCRT
Nickel, total (as Ni)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Annual	DISCRT
Selenium, total (as Se)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Annual	DISCRT
Zinc, total (as Zn)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Annual	DISCRT
			M&R				

Groundwater Monitoring Wells Table for Sample Location Mw1 (Monitoring Well Mw-1) To Be Reported Annually^[1]

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Silver, total (as Ag)	Value		Milligrams per Liter (mg/L)	Groundwater	MW1	Annual	DISCRT
Thallium, total (as Tl)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Annual	DISCRT

Notes (Groundwater Monitoring Wells Table):

1. The listed priority pollutant metals shall be measured annually during the 4th quarter, and the analysis results shall be reported annually in the 4th quarter Discharge Monitoring Report.

Ponds / Rapid Infiltration Basins for Sample Location 001 (Fort Churchill Pond) To Be Reported Monthly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate ^[1]	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	001	Monthly	CALCTD
Flow rate ^[1]	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	001	Monthly	CALCTD

Notes (Ponds / Rapid Infiltration Basins):

1. Discharge flow rate from the cooling pond to the Fort Churchill Pond

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

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Sulfate, total (as SO ₄)	Value		M&R Milligrams per Liter (mg/L)	Receiving Water ^[2]	001	Quarterly	DISCRT
Iron, total recoverable ^[1]	Value		M&R Milligrams per Liter (mg/L)	Receiving Water ^[2]	001	Quarterly	DISCRT
Sodium, total (as Na)	Value		M&R Milligrams per Liter (mg/L)	Receiving Water ^[2]	001	Quarterly	DISCRT
Arsenic, total recoverable ^[1]	Value		M&R Milligrams per Liter (mg/L)	Receiving Water ^[2]	001	Quarterly	DISCRT
Fluoride, total (as F)	Value		M&R Milligrams per Liter (mg/L)	Receiving Water ^[2]	001	Quarterly	DISCRT
Chloride (as Cl)	Value		M&R Milligrams per Liter (mg/L)	Receiving Water ^[2]	001	Quarterly	DISCRT
Solids, total dissolved	Value		M&R Milligrams per Liter (mg/L)	Receiving Water ^[2]	001	Quarterly	DISCRT
Boron, total recoverable ^[1]	Value		M&R Milligrams per Liter (mg/L)	Receiving Water ^[2]	001	Quarterly	DISCRT
Zinc, total recoverable ^[1]	Value		M&R Milligrams per Liter (mg/L)	Receiving Water ^[2]	001	Quarterly	DISCRT
Molybdenum, total (as Mo) ^[1]	Value		M&R Milligrams per Liter (mg/L)	Receiving Water ^[2]	001	Quarterly	DISCRT
Coliform, fecal, colony forming units	Value		M&R Colony Forming Units per 100ml T (CFU/100mL)	Receiving Water ^[2]	001	Quarterly	DISCRT

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

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Mercury, total recoverable ^[1]	Daily Maximum		<= 2.0 Parts per Billion (ppb) ^[3]	Receiving Water ^[2]	001	Quarterly	DISCRT
Mercury, total recoverable ^[1]	30 Day Average		<= 0.012 Parts per Billion (ppb) ^[3]	Receiving Water ^[2]	001	Quarterly	DISCRT

Notes (Ponds / Rapid Infiltration Basins):

1. Analyze as total recoverable metal per 40 CFR § 136.
2. A representative location within the Fort Churchill Pond
3. In the event that mercury levels in the Fort Churchill Pond exceed permit detection limits:
 - a fish and waterfowl tissue sampling plan shall be developed and the results reported to the Division as required
 - one fish tissue sample shall be taken from fish in the cooling pond with the results of analysis to determine if sampling shall be done yearly

Ponds / Rapid Infiltration Basins for Sample Location 002 (Evaporation Pond) To Be Reported Monthly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	Daily Maximum	<= 0.86 Million Gallons per Day (Mgal/d)		Effluent Gross ^[1]	002	Continuous	METER
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross ^[1]	002	Continuous	METER

Notes (Ponds / Rapid Infiltration Basins):

1. Prior to discharge into the evaporation pond

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

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
pH	Value		M&R Standard Units (SU)	Effluent Gross ^[3]	002	Quarterly	DISCRT
Freeboard	Minimum		>= 2 Feet (ft)	See Footnote ^[1]	002	Quarterly	VISUAL
Liner Leakage Rate	Maximum	<= 500 Gallons per Acre per Day (gal/acre/d)		Internal Monitoring Point ^[2]	002	Quarterly	VISUAL
Solids, total dissolved	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[3]	002	Quarterly	DISCRT
Sulfate, total (as SO ₄)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[3]	002	Quarterly	DISCRT

Notes (Ponds / Rapid Infiltration Basins):

1. Freeboard shall be monitored at the evaporation pond staff gauge.
2. The primary liner leakage rate shall be monitored at the evaporation pond's leak detection sump.
3. At the point furthest from the inlet into the evaporation pond

Ponds / Rapid Infiltration Basins for Sample Location 002 (Evaporation Pond) To Be Reported Annually^[1]

Parameter	Discharge Limitations			Monitoring Requirements			
	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]	002	Annual	DISCRT
Copper, total (as Cu)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	002	Annual	DISCRT
Oil & grease	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	002	Annual	DISCRT
Antimony, total (as Sb)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	002	Annual	DISCRT
Arsenic, total (as As)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	002	Annual	DISCRT
Beryllium, total (as Be)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	002	Annual	DISCRT
Cadmium, total (as Cd)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	002	Annual	DISCRT
Hydrocarbons, total petroleum	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	002	Annual	DISCRT
Lead, total (as Pb)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	002	Annual	DISCRT
Mercury, total (as Hg)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	002	Annual	DISCRT
Nickel, total (as Ni)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	002	Annual	DISCRT
			M&R				

Ponds / Rapid Infiltration Basins for Sample Location 002 (Evaporation Pond) To Be Reported Annually^[1]

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Selenium, total (as Se)	Value		Milligrams per Liter (mg/L)	Effluent Gross ^[2]	002	Annual	DISCRT
Silver, total (as Ag)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	002	Annual	DISCRT
Thallium, total (as Tl)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	002	Annual	DISCRT
Zinc, total (as Zn)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	002	Annual	DISCRT

Notes (Ponds / Rapid Infiltration Basins):

- Oil & grease, total petroleum hydrocarbons, and the listed priority pollutant metals shall be measured annually during the 4th quarter, and the analysis results shall be reported annually in the 4th quarter Discharge Monitoring Report.
- At the point furthest from the inlet into the evaporation pond

Ponds / Rapid Infiltration Basins for Sample Location 003 (North Pond) To Be Reported Monthly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
pH, minimum	Daily Minimum		>= 6.5 Standard Units (SU)	Effluent Gross ^[2]	003	Monthly	DISCRT
pH, maximum	Daily Maximum		<= 9.0 Standard Units (SU)	Effluent Gross ^[2]	003	Monthly	DISCRT
Oxygen, dissolved (DO)	Daily Minimum		>= 6.0 Milligrams per Liter (mg/L)	Effluent Gross ^[2]	003	Monthly	DISCRT
Phosphorus, total (as P)	Daily Maximum		<= 0.33 Milligrams per Liter (mg/L)	Effluent Gross ^[2]	003	Monthly	DISCRT
Nitrogen, ammonia total (as N)	30 Day Average		<= 1.00 Ratio (Ratio) ^[4]	Effluent Gross ^[2]	003	Monthly	CALCTD
Solids, total dissolved	Daily Maximum		<= 500 Milligrams per Liter (mg/L)	Effluent Gross ^[2]	003	Monthly	DISCRT
E. coli	Daily Maximum		<= 576 Number per 100 Milliliters T (#/100mL)	Effluent Gross ^[2]	003	Monthly	DISCRT
Coliform, fecal general	Daily Maximum		<= 1000 Number per 100 Milliliters T (#/100mL)	Effluent Gross ^[2]	003	Monthly	DISCRT
Flow rate ^[1]	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	003	Continuous	METER
Flow rate ^[1]	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	003	Continuous	METER
Temperature, water deg. centigrade	Daily Maximum		<= 20 Degrees Centigrade (deg C)	Effluent Gross ^[2]	003	Monthly	DISCRT
Nitrogen, ammonia total (as N)	Daily Maximum		<= 1.00 Ratio (Ratio) ^[3]	Effluent Gross ^[2]	003	Monthly	CALCTD

Notes (Ponds / Rapid Infiltration Basins):

1. Discharge flow rate from the cooling pond to the North Pond
2. Prior to discharge to the North Pond
3. The daily maximum concentration of total ammonia as nitrogen shall be reported as a ratio calculated in accordance with item #3 in the Special Approvals / Conditions Table on page 22 of the permit.
4. The 30-day average concentration of total ammonia as nitrogen shall be reported as a ratio calculated in accordance with item #4 in the Special Approvals / Conditions Table on page 22 of the permit.

Ponds / Rapid Infiltration Basins for Sample Location 003 (North Pond) To Be Reported Annually

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Arsenic, total (as As)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	003	Annual	DISCRT
Boron, total (as B)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[2]	003	Annual	DISCRT
E. coli	Geometric Mean ^[1]		<= 126 Number per 100 Milliliters T (#/100mL)	Effluent Gross ^[2]	003	Annual	CALCTD

Notes (Ponds / Rapid Infiltration Basins):

1. Annual geometric mean
2. Prior to discharge to the North Pond

Ponds / Rapid Infiltration Basins for Sample Location 004 (On-Site Dust Control & Firefighting) To Be Reported Monthly

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

Ponds / Rapid Infiltration Basins for Sample Location 005 (Cooling Pond) To Be Reported Quarterly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Freeboard	Minimum		>= 3 Feet (ft)	See Footnote ^[2]	005	Quarterly	VISUAL
Arsenic, total recoverable ^[1]	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross	005	Quarterly	DISCRT
Fluoride, total (as F)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross	005	Quarterly	DISCRT
Chloride (as Cl)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross	005	Quarterly	DISCRT
Sulfate, total (as SO ₄)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross	005	Quarterly	DISCRT
Iron, total recoverable ^[1]	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross	005	Quarterly	DISCRT
Sodium, total (as Na)	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross	005	Quarterly	DISCRT
Solids, total dissolved	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross	005	Quarterly	DISCRT
Boron, total recoverable ^[1]	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross	005	Quarterly	DISCRT
Zinc, total recoverable ^[1]	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross	005	Quarterly	DISCRT
Molybdenum, total (as Mo) ^[1]	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross	005	Quarterly	DISCRT
			M&R Colony				

Ponds / Rapid Infiltration Basins for Sample Location 005 (Cooling Pond) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Coliform, fecal, colony forming units	Value		Forming Units per 100ml T (CFU/100mL)	Effluent Gross	005	Quarterly	DISCRT
Mercury, total recoverable ^[1]	Daily Maximum		<= 2.0 Parts per Billion (ppb) ^[3]	Effluent Gross	005	Quarterly	DISCRT
Mercury, total recoverable ^[1]	30 Day Average		<= 0.012 Parts per Billion (ppb) ^[3]	Effluent Gross	005	Quarterly	DISCRT

Notes (Ponds / Rapid Infiltration Basins):

1. Analyze as total recoverable metal per 40 CFR § 136.
2. Freeboard shall be monitored at the cooling pond staff gauge.
3. In the event that mercury levels in the Fort Churchill Pond exceed permit detection limits:
 - a fish and waterfowl tissue sampling plan shall be developed and the results reported to the Division as required
 - one fish tissue sample shall be taken from fish in the cooling pond with the results of analysis to determine if sampling shall be done yearly

Ponds / Rapid Infiltration Basins for Sample Location 006 (Sum Of The Discharge To Outfalls 001, 003, & 008) To Be Reported Monthly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	Daily Maximum	<= 5.6 Million Gallons per Day (Mgal/d)		Effluent Gross	006	Monthly	CALCTD
Flow rate	30 Day Average	<= 4.4 Million Gallons per Day (Mgal/d)		Effluent Gross	006	Monthly	CALCTD

Ponds / Rapid Infiltration Basins for Sample Location 007 (Off-Site Dust Control & Firefighting) To Be Reported Monthly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	007	Daily	CALCTD
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	007	Daily	CALCTD

Ponds / Rapid Infiltration Basins for Sample Location 008 (Upper Gadwall Pond, Lower Gadwall Pond, & Shoveller Pond) To Be Reported Monthly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate ^[1]	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	008	Continuous	METER
Flow rate ^[1]	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	008	Continuous	METER
Temperature, water deg. centigrade	Daily Maximum		<= 34 Degrees Centigrade (deg C)	Effluent Gross ^[2]	008	Monthly	DISCRT
pH, minimum	Daily Minimum		>= 6.5 Standard Units (SU)	Effluent Gross ^[2]	008	Monthly	DISCRT
pH, maximum	Daily Maximum		<= 9.0 Standard Units (SU)	Effluent Gross ^[2]	008	Monthly	DISCRT
Oxygen, dissolved (DO)	Daily Minimum		>= 5.0 Milligrams per Liter (mg/L)	Effluent Gross ^[2]	008	Monthly	DISCRT
Phosphorus, total (as P)	Daily Maximum		<= 0.33 Milligrams per Liter (mg/L)	Effluent Gross ^[2]	008	Monthly	DISCRT
Nitrogen, ammonia total (as N)	Daily Maximum		<= 1.00 Ratio (Ratio) ^[3]	Effluent Gross ^[2]	008	Monthly	CALCTD
Nitrogen, ammonia total (as N)	30 Day Average		<= 1.00 Ratio (Ratio) ^[4]	Effluent Gross ^[2]	008	Monthly	CALCTD
Solids, total dissolved	Daily Maximum		<= 500 Milligrams per Liter (mg/L)	Effluent Gross ^[2]	008	Monthly	DISCRT
E. coli	Daily Maximum		<= 576 Number per 100 Milliliters T (#/100mL)	Effluent Gross ^[2]	008	Monthly	DISCRT
Coliform, fecal general	Daily Maximum		<= 1000 Number per 100 Milliliters	Effluent Gross ^[2]	008	Monthly	DISCRT

Ponds / Rapid Infiltration Basins for Sample Location 008 (Upper Gadwall Pond, Lower Gadwall Pond, & Shoveller Pond) To Be Reported Monthly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
			T (#/100mL)				

Notes (Ponds / Rapid Infiltration Basins):

1. Discharge flow rate from the cooling pond to the Upper Gadwall Pond, Lower Gadwall Pond, and/or Shoveller Pond
2. Prior to discharge to the Upper Gadwall Pond, Lower Gadwall Pond, and/or Shoveller Pond
3. The daily maximum concentration of total ammonia as nitrogen shall be reported as a ratio calculated in accordance with item #5 in the Special Approvals / Conditions Table on page 25 of the permit.
4. The 30-day average concentration of total ammonia as nitrogen shall be reported as a ratio calculated in accordance with item #4 in the Special Approvals / Conditions Table on page 25 of the permit.

Ponds / Rapid Infiltration Basins for Sample Location 008 (Upper Gadwall Pond, Lower Gadwall Pond, & Shoveller Pond) To Be Reported Annually

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
E. coli	Geometric Mean ^[1]		<= 126 Number per 100 Milliliters T (#/100mL)	Effluent Gross ^[2]	008	Annual	CALCTD

Notes (Ponds / Rapid Infiltration Basins):

1. Annual geometric mean
2. Prior to discharge to the Upper Gadwall Pond, Lower Gadwall Pond, and/or Shoveller Pond

Rationale for Permit Requirements:

Permit limits have been established to ensure that the receiving water is not degraded by the discharge.

Fecal Coliform:

Monitoring and reporting of fecal coliform is required.

Special Conditions:

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

SA – Special Approvals / Conditions Table

Item #	Description
1	<p>Permit section B.PB.10. requires the Permittee to maintain a minimum freeboard depth of 3 feet for the evaporation pond; the Permittee is exempt from this requirement.</p> <p>The Permittee shall maintain a minimum freeboard depth of 2 feet for the evaporation pond, as required by the discharge limitations table for Outfall 002 (evaporation pond).</p>
2	<p>Permit section B.PB.9.6. applies only to the processes applicable to the permitted discharges (e.g. ponds, discharge points, leak detection sumps, etc.).</p>
3	<p>The daily maximum concentration of total ammonia as nitrogen in the discharge to the North Pond shall be reported as a ratio calculated from the following equation:</p> <p>Ratio = (Total Ammonia as N) / Limit</p> <p>Total Ammonia as N = concentration, in mg/L, of total ammonia as nitrogen in the sample</p> <p>Limit = $[0.275/(1+10^{7.204-pH})]+[39.0/(1+10^{pH-7.204})]$</p>
4	<p>The 30-day average concentration of total ammonia as nitrogen shall be reported as a ratio calculation from the following equation:</p> <p>Ratio = (Total Ammonia as N) / Limit</p> <p>Total Ammonia as N = concentration, in mg/L, of total ammonia as nitrogen in the sample</p> <p>Limit = $\{[0.0577/(1+10^{7.688-pH})]+[2.487/(1+10^{pH-7.688})]\} \times \text{MIN}[2.85, 1.45 \times 10^{0.028 \times (25-T)}]$</p> <p>where: MIN means the lesser of the two values separated by the comma, and T is the temperature in °C</p>
5	<p>The daily maximum concentration of total ammonia as nitrogen in the discharge to the Upper Gadwall Pond, Lower Gadwall Pond, and/or Shoveller Pond shall be reported as a ratio calculated from the following equation:</p> <p>Ratio = (Total Ammonia as N) / Limit</p> <p>Total Ammonia as N = concentration, in mg/L, of total ammonia as nitrogen in the sample</p> <p>Limit = $[0.411/(1+10^{7.204-pH})]+[58.4/(1+10^{pH-7.204})]$</p>
6	<p>After 12 monthly samples which demonstrate that the concentration limits for parameters with a monthly measurement frequency in the discharge limitations tables for Outfall 003 (North Pond) have not been exceeded, the Division may, upon Permittee request, change the measurement frequency from "monthly" to "quarterly" through a minor modification of the permit.</p>
7	<p>After 12 monthly samples which demonstrate that the concentration limits for parameters with a monthly measurement frequency in the discharge limitations tables for Outfall 008 (Upper Gadwall Pond, Lower Gadwall Pond, & Shoveller Pond) have not been exceeded, the Division may, upon Permittee request, change the measurement frequency from "monthly" to "quarterly" through a minor modification of the permit.</p>

Flow:Outfall 002

Daily Maximum Flow Rate ≤ 0.86 million gallons per day (MGD)

Outfall 006Daily Maximum Flow Rate \leq 5.6 MGD30-Day Average Flow Rate \leq 4.4 MGD**Corrective Action Sites:**

There are no Bureau of Corrective Actions remediation sites located within a one-mile radius of the FCGS.

Wellhead Protection Program:

The FCGS is not located within a Wellhead Protection Area but is partially located within two 6,000-ft Drinking Water Protection Areas (DWPA) and one 3,000-ft DWPA. The permitted discharge activity is not expected to negatively impact the DWPAs.

Schedule of Compliance:

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	The Permittee shall submit a new Operations and Maintenance (O&M) Manual to the Division. The O&M Manual shall be prepared by a qualified individual familiar with the Fort Churchill Generating Station.	10/28/2016

Deliverable Schedule:

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

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly Discharge Monitoring Report	Quarterly	10/28/2016
2	Annual 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 **Reno Gazette Journal, Mason Valley News** 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. **5/25/2016**, 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: **4/11/2016**

Title: **Staff I Associate Engineer**