





### NV Energy's Power Supply Assets

Generation Fleet, Power Purchase Agreements, and Gas Transportation Agreements

Response to information requested by the Governor's Committee on Energy

Choice Consumer & Investor Economic Impacts Technical Working Group



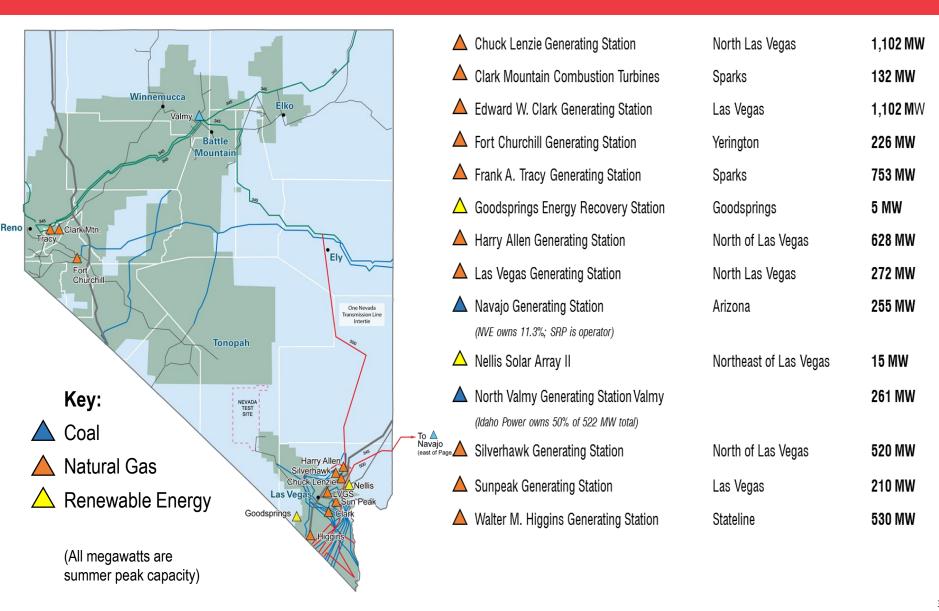


### **NV Energy's Power Generation Fleet**



#### **Generation Assets**





## **NV Energy Generation Assets Net Book Value Summary**



Nevada Power Company d/b/a NV Energy Power Generati	tion As	sets_		Sierra Pacific Power Company d/b/a NV Energy Power Genera	ation As	sets
Estimated Net Book Value (As of 12/31/2016)			1	Estimated Net Book Value (As of 12/31/2016)		
Plant Name		\$ m	4	Plant Name		\$ m
Nevada Power Company Generation Assets Harry Allen Generating Station Silverhawk Generating Station Chuck Lenzie Generating Station Las Vegas Generating Station Sun Peak Generating Station Edward C. Clark Generating Station Walter M. Higgins Generating Station Goodsprings Energy Recovery Station Nellis Solar Array II	\$	638.0 177.7 438.6 126.4 15.7 409.2 421.0 26.5 45.0		Sierra Pacific Power Company Generation Assets North Valmy Power Plant Frank A. Tracy Generating Station Clark Mountain Generating Units Fort Churchill Generating Station	\$	171.9 443.3 16.2 29.1
Navajo Generating Station  Total Estimated NBV Nevada Power Company	\$	57.1 2,355.2	<u> </u>	Total Estimated NBV Sierra Pacific Power Company	\$	660.5
NV Energy Power Total Power Generation Assets		3,015.7				

#### Notes:

- Net book values are estimated at December 31, 2016.
- Only power plants currently operational are included in Net Book Value Summary and the presentation.
- Net book values were derived at the plant level, not the unit level.
- Reid Gardner Unit #4 was operational at 12/31/2016 with a Net Book Value of \$156m. The unit was retired in 2017 and not
  considered a potential stranded asset at this time. Future costs associated with retirement and decommission could become
  stranded costs.
- Nevada Power purchased 25% of Silverhawk Generating Station for \$77.1m in 2017. This acquisition is not reflected in the net book values presented above.

### **North Valmy Power Plant**







\*Assumes a fuel cost of \$2.50/mmbtu

btu - British thermal units mmbtu - one million btus Kwhr - kilowatt-hour MWhr - megawatt-hour

Location	Near Valmy, Nevada
Ownership	Sierra Pacific Power Company – 50% Idaho Power Company – 50%
Туре	Baseload Coal-fired steam units
Fuel	Western Coals
Peak Rating (at 108 degrees F)	Unit 1 - 254 megawatts Unit 2 - 268 megawatts
Efficiency	Unit 1 - 10,353 btus/kwhr Unit 2 - 9,860 btus/kwhr
Commission Date	Unit 1 - 1981 Unit 2 - 1985
Estimated Production Cost*	Unit 1 - \$29.90 per MWhr Unit 2 - \$28.86 per MWhr
2016 Availability Factor	Unit 1 - 85.4% Unit 2 - 92.9%
2016 Production/Capacity Factor	Unit 1 - 495,575 MWhrs / 22.7% Unit 2 - 474,982 MWhrs / 20.0%
Planned Retirement Date	Unit 1 - 2025 Unit 2 - 2025
Cost at Completion	Unit 1 - \$113.8m Unit 2 - \$160.0m
Net Book Value (12/31/2016)	\$171.9m
Number of employees	85 (Total staffing for both units)

<u>Notes:</u> North Valmy is currently a Reliability Must Run plant during high load periods to support the grid in Northeast Nevada. The costs for original construction and net book value applies only to Sierra Pacific Power's 50% ownership share. Idaho Power recently received an order from the Idaho Public Utility Commission requesting that they negotiate with NV Energy to retire and shutdown Unit 1 by the end of 2019.

### Frank A. Tracy Generating Station







\*Assumes a fuel cost of \$3.00/mmbtu

btu - British thermal units mmbtu - one million btus Kwhr - kilowatt-hour MWhr - megawatt-hour

Location	Near Patrick, Nevada
Ownership	Sierra Pacific Power Company – 100%
Туре	Baseload and Intermediate
Fuel	Natural Gas
Peak Rating (at 108 degrees F)	Unit 3 - 108 megawatts (Intermediate Steam) Unit 5 - 104 megawatts (Intermediate Combined Cycle) Unit 10 - 541 megawatts (Baseload Combined Cycle)
Efficiency	Unit 3 - 10,001 btus per kwh Unit 5 - 8,144 btus per kwh Unit 10 - 7,150 btus per kwh
Commission Date	Unit 3 - 1974 Unit 5 - 1996 Unit 10 - 2008
Estimated Production Cost*	Unit 3 - \$32.33/MWhr Unit 5 - \$26.69/MWhr Unit 10 - \$21.84/MWhr
2016 Availability Factor	Unit 3 - 91.8% Unit 5 - 91.9% Unit 10 - 95.0%
2016 Production/Capacity Factor	Unit 3 - 90,511 MWhrs / 9.7% Unit 5 - 283,134 MWhrs / 32.2% Unit 10 - 3,601,815 MWhrs / 72.1%
Planned Retirement Date	Unit 3 - 2028 Unit 5 - 2031 Unit 10 - 2043
Cost at Completion	Unit 3 - \$27.0m Unit 5 - \$52.0m Unit 10 - \$440.0m
Net Book Value (12/31/2016)	\$443.3m
Number of employees	48 (Total staffing for all three units)
Notes: While not ourrently a Paliability Must Dun plant, due to growth accepiated with the Tahan Dana Industrial	

**Notes:** While not currently a Reliability Must Run plant, due to growth associated with the Tahoe-Reno Industrial Center, NV Energy expects Tracy may become a Reliability Must Run plant in the future. Tracy Unit 10 is comprised of two gas turbines and one steam turbine. Tracy Unit 5 is comprised of one gas turbine and one steam turbine.

### **Clark Mountain Generating Units**







\*Assumes a fuel cost of \$3.00/mmbtu

btu - British thermal units mmbtu - one million btus Kwhr - kilowatt-hour MWhr - megawatt-hour

Location	Near Patrick, Nevada (Located on the Tracy Generating Station site)
Ownership	Sierra Pacific Power Company – 100%
Туре	Peaking
Fuel	Natural Gas and Fuel Oil
Peak Rating (at 108 degrees F)	Unit 3 - 66 megawatts Unit 4 - 66 megawatts
Efficiency	Unit 3 - 13,929 btus per kwh Unit 4 - 14,955 btus per kwh
Commission Date	Unit 3 - 1994 Unit 4 - 1994
Estimated Production Cost*	Unit 3 - \$38.08/MWhr Unit 4 - \$38.67/MWhr
2016 Availability Factor	Unit 3 - 93.5% Unit 4 - 97.66%
2016 Production/Capacity Factor	Unit 3 - 29,828 MWhrs / 4.6% Unit 4 - 21,684 MWhrs / 3.45%
Planned Retirement Date	Unit 3 - 2024 Unit 4 - 2024
Cost at Completion	Unit 3 - \$27.0m Unit 4 - \$27.0m
Net Book Value (12/31/2016)	\$16.2m
Number of employees	No employees - included in Tracy total

Notes: While not currently a Reliability Must Run plant, due to growth associated with the Tahoe-Reno Industrial Center, NV Energy expects Clark Mountain may become a Reliability Must Run plant in the future. These units can be started and placed on line in less than 10 minutes. Fuel oil is an emergency back-up only and would be used only in the case where natural gas is unavailable or the heating demand for residential service creates a curtailment.

### Fort Churchill Generating Station







\*Assumes a fuel cost of \$3.00/mmbtu

btu - British thermal units mmbtu - one million btus Kwhr - kilowatt-hour MWhr - megawatt-hour

Location	Near Yerington, Nevada
Ownership	Sierra Pacific Power Company – 100%
Туре	Intermediate; Reliability Must Run plant
Fuel	Natural Gas
Peak Rating (at 108 degrees F)	Unit 1 - 113 megawatts Unit 2 - 113 megawatts
Efficiency	Unit 1 - 10,052 btus per kwh Unit 2 - 10,092 btus per kwh
Commission Date	Unit 1 - 1968 Unit 2 - 1971
Estimated Production Cost*	Unit 1 - \$31.60/MWhr Unit 2 - \$31.87/MWhr
2016 Availability Factor	Unit 1 - 93.7% Unit 2 - 91.6%
2016 Production/Capacity Factor	Unit 1 - 143,454 MWhrs / 14.9% Unit 2 - 128,412 MWhrs / 12.9%
Planned Retirement Date	Unit 1 - 2025 Unit 2 - 2028
Cost at Completion	Unit 1 - \$16.0m Unit 2 - \$16.0m
Net Book Value (12/31/2016)	\$29.1m
Number of employees	27

<u>Notes:</u> Fort Churchill is a Reliability Must Run plant in order to support grid reliability when loads are high in Carson City. Fort Churchill has been recognized as the leading fossil plant in the nation when looking at the consecutive years without a lost time injury.

### **Harry Allen Generating Station**







\*Assumes a fuel cost of \$3.00/mmbtu

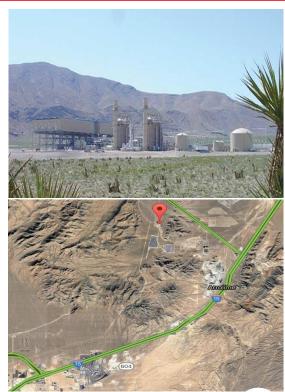
btu - British thermal units mmbtu - one million btus Kwhr - kilowatt-hour MWhr - megawatt-hour

100	Location	15 miles north-northwest of Las Vegas Motor Speedway
Section 2	Ownership	Nevada Power Company – 100%
年と	Туре	Baseload and Peaking Units
1	Fuel	Natural Gas
S. S. S. S.	Peak Rating (at 112 degrees F)	Unit 3 - 72 megawatts - (Peaking Unit) Unit 4 - 72 megawatts - (Peaking Unit) Unit 7 - 484 megawatts - (Baseload Combined Cycle)
N. COMPANY OF STREET,	Efficiency	Unit 3 - 13,153 btus per kwh Unit 4 - 12,868 btus per kwh Unit 7 - 6,971 btus per kwh
	Commission Date	Unit 3 - 1995 Unit 4 - 2006 Unit 7 - 2011
The state of the s	Estimated Production Cost*	Unit 3 - \$38.18/MWhr Unit 4 - \$35.86/MWhr Unit 7 - \$21.37/MWhr
	2016 Availability Factor	Unit 3 - 95.3% Unit 4 - 97.37% Unit 7 - 96.6%
The same	2016 Production/Capacity Factor	Unit 3 - 13,314 MWhrs / 2.1% Unit 4 - 19,583 MWhrs / 3.0%% Unit 7 - 3,532,683 MWhrs / 78.3%
	Planned Retirement Date	Unit 3 - 2025 Unit 4 - 2036 Unit 7 - 2046
	Cost at Completion	Unit 3 - \$59.7m Unit 4 - \$36.3m Unit 7 - \$694.8m
	Net Book Value (12/31/2016)	\$638.0m
	Number of employees	23

<u>Notes:</u> Harry Allen Unit 7 is the last fossil fuel plant built by NV Energy. It is the most efficient plant in NV Energy's generating fleet. It consists of two gas turbines and one steam turbine. The plant is located on land leased from the Bureau of Land Management. Units 3 and 4 can start and serve load within 10 minutes.

### Silverhawk Generating Station





\*Assumes a fuel cost of \$3.00/mmbtu

btu - British thermal units mmbtu - one million btus Kwhr - kilowatt-hour MWhr - megawatt-hour

Location	15 miles north-northwest of Las Vegas Motor Speedway
Ownership	Nevada Power Company – 100%
Туре	Baseload Combined Cycle
Fuel	Natural Gas
Peak Rating (at 112 degrees F)	520 megawatts
Efficiency	7,457 btus per kilowatt
Commission Date	Commissioned by Pinnacle West in 2004; Purchased by NV Energy in 2006
Estimated Production Cost*	\$22.85/MWhr
2016 Availability Factor	96.5%
2016 Production/Capacity Factor	2,704,777 MWhrs / 54.36%
Planned Retirement Date	2039
Cost at Completion	NV Energy purchased 75% of the plant for \$222.9m in 2006 NV Energy purchased the remaining 25% for \$77.1m in 2017
Net Book Value (12/31/2016)	\$177.7m – following the purchase of SNWA's share, the estimated net book value on 12/31/2017 is \$249.1m
Number of employees	22

<u>Notes:</u> The Silverhawk plant was originally a merchant offering built by Pinnacle West. Pinnacle West owned 75% of the facility and Southern Nevada Water Authority owned the remaining 25% until April of 2017 when NV Energy purchased their share. The unit consists of two gas turbines and one steam turbine.

### **Chuck Lenzie Generating Station**







\*Assumes a fuel cost of \$3.00/mmbtu

btu - British thermal units mmbtu - one million btus Kwhr - kilowatt-hour MWhr - megawatt-hour

Location	15 miles north-northwest of Las Vegas Motor Speedway
Ownership	Nevada Power Company – 100%
Туре	Baseload Combined Cycle
Fuel	Natural Gas
Peak Rating (at 112 degrees F)	Unit 1 - 551 megawatts Unit 2 - 551 megawatts
Efficiency	Unit 1 - 6,975 btus per kilowatt Unit 2 - 6,929 btus per kilowatt
Commission Date	Construction was started by Duke Energy in 2000 and suspended in 2002. NV Energy purchased the unfinished plant in 2004 and completed construction and commissioning of both units in 2006.
Estimated Production Cost*	Unit 1 - \$21.51/MWhr Unit 2 - \$21.63/MWhr
2016 Availability Factor	Unit 1 - 93.3% Unit 2 - 88.51%
2016 Production/Capacity Factor	Unit 1 - 3,290,574 MWhrs / 68.9% Unit 2 - 3,054,618 MWhrs / 64.0%
Planned Retirement Date	Unit 1 - 2041 Unit 2 - 2041
Cost at Completion	Unit 1 - \$237.5m Unit 2 - \$237.5m
Net Book Value (12/31/2016)	\$438.6m
Number of employees	35
N ( T) O ( )	

**Notes:** The Chuck Lenzie Generating Station currently produces the most energy for the state of Nevada including Hoover. Each unit consists of two gas turbines and one steam turbine.

### **Las Vegas Generating Station**







\*Assumes a fuel cost of \$3.00/mmbtu

btu - British thermal units mmbtu - one million btus Kwhr - kilowatt-hour MWhr - megawatt-hour

	Location	North Las Vegas near the Cheyenne exit of HInterstate 15
	Ownership	Nevada Power Company – 100%
	Туре	Peaking Combined Cycle
	Fuel	Natural Gas
THE PERSON NAMED IN	Peak Rating (at 112 degrees F)	Unit 1 - 48 megawatts Unit 2 - 112 megawatts Unit 3 - 112 megawatts
	Efficiency	Unit 1 - 8,300 btus per kilowatt Unit 2 - 8,618 btus per kilowatt Unit 3 - 8,618 btus per kilowatt
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Commission Date	Unit 1 - 1994 Unit 2 - 2004 Unit 3 - 2004
O Control	Estimated Production Cost*	Unit 1 - \$27.07/MWhr Unit 2 - \$28.97/MWhr Unit 3 - \$28.97/MWhr
Transmis	2016 Availability Factor	Unit 1 - 45.7% Unit 2 - 86.4% Unit 3 - 79.0%
CONTRACTOR OF THE PERSON	2016 Production/Capacity Factor	Unit 1 - 25,778 MWhrs / 6.0% Unit 2 - 174133 MWhrs / 17.5% Unit 3 - 166,429 MWhrs / 16.7%
and the	Planned Retirement Date	Unit 1 - 2029 Unit 2 - 2039 Unit 3 - 2039
	Cost at Completion	The entire plant was purchased for \$130.1m in 2014
	Net Book Value (12/31/2016)	\$126.4m
	Number of employees	19

<u>Notes:</u> Unit 1 consists of one gas turbine and one steam turbine. Units 2 and 3 both have two gas turbines and one steam turbine. Unique to the Las Vegas plant is that the gas turbines are peaking gas turbines which allow for faster starting of the units. The plant originally connected to a greenhouse and provided steam and water. It is not connected in any way today.

### **Sun Peak Generating Station**







\*Assumes a fuel cost of \$3.00/mmbtu

btu - British thermal units mmbtu - one million btus Kwhr - kilowatt-hour MWhr - megawatt-hour

Location	Las Vegas, near Las Vegas High School	
Ownership	Nevada Power Company – 100%	
Туре	Peaking	
Fuel	Natural Gas and Fuel Oil	
Peak Rating (at 108 degrees F)	Unit 3 - 70 megawatts Unit 4 - 70 megawatts Unit 5 - 70 megawatts	
Efficiency	Unit 3 - 13,000 btus per kwh Unit 4 - 13,000 btus per kwh Unit 5 - 13,000 btus per kwh	
Commission Date	All three units were commissioned in 1991 NV Energy purchased the plant in 2014	
Estimated Production Cost*	Unit 3 - \$38.28/MWhr Unit 4 - \$38.28/MWhr Unit 5 - \$38.28/MWhr	
2016 Availability Factor	Unit 3 - 83.7% Unit 4 - 83.4% Unit 5 - 80.5%	
2016 Production/Capacity Factor	Unit 3 - 8,909 MWhrs / 1.4% Unit 4 - 7,081 MWhrs / 1.1% Unit 5 - 4,137 / 0.7%	
Planned Retirement Date	All three units have a 2026 retirement date	
Cost at Completion	All three units were purchased for \$11.3m in 2014	
Net Book Value (12/31/2016)	\$15.7m	
Number of employees	5	

<u>Notes:</u> The Sun Peak Generating Station is on the site of the former Sunrise Generating Station which has been retired and removed. Each of the three units can be started and serving load within 10 minutes. The plant uses reclaimed water for power production.

### **Edward W. Clark Generating Station**







\*Assumes a fuel cost of \$3.00/mmbtu

btu - British thermal units mmbtu - one million btus Kwhr - kilowatt-hour MWhr - megawatt-hour

Location	Las Vegas - near the Russell Road exit of Interstate 515; Located at the Edward W. Clark Generating Facility
Ownership	Nevada Power Company – 100%
Туре	Intermediate Combined-Cycle and Peaking
Fuel	Natural Gas
Peak Rating (at 108 degrees F)	Unit 4 - 54 megawatts (Peaking Unit) Unit 9 - 215 megawatts (Intermediate Combined Cycle) Unit 10 - 215 megawatts (Intermediate Combined Cycle)
Efficiency	Unit 4 - 14,181 btus per kwh Unit 9 - 8,597 btus per kwh Unit 10 - 8,757 btus per kwh
Commission Date	Unit 4 - 1973 Unit 9 - 1982/1993 Unit 10 - 1979/1994
Estimated Production Cost*	Unit 4 - \$38.60/MWhr Unit 9 - \$28.22/MWhr Unit 10 - \$28.24/MWhr
2016 Availability Factor	Unit 4 - 94.3% Unit 9 - 91.1% Unit 10 - 92.1%
2016 Production/Capacity Factor	Unit 4 - 544 MWhrs / 0.1% Unit 9 - 337,819 / 16.1% Unit 10 - 310,112 MWhrs / 14.8%
Planned Retirement Date	Unit 4 - 2020 Unit 9 - 2033 Unit 10 - 2034
Cost at Completion	\$145.2m
Net Book Value (12/31/2016)	\$409.2m (includes all units – including the Clark Peaking Units)
Number of employees	30

Notes: The Clark Generating Station is a Reliability Must Run facility during high load periods to maintain reliability of a portion of the southern Nevada grid. The plant uses reclaimed water for power production. Units 9 and 10 consist of two gas turbines and one steam turbine each. The gas turbines for these units were constructed first between 1979 and 1982 and the steam turbines were added later - 1993 and 1994.

### **Clark Peaking Units**







\*Assumes a fuel cost of \$3.00/mmbtu

btu - British thermal units mmbtu - one million btus Kwhr - kilowatt-hour MWhr - megawatt-hour

1000	Location	Las Vegas - near the Russell Road exit of Interstate 515 - located at the Edward W. Clark Generating Station
1. 43	Ownership	Nevada Power – 100%
400	Туре	Peaking Units
1	Fuel	Natural Gas
1	Peak Rating (at 108 degrees F)	Peaker Units 11 thru 22 - 618 megawatts (51.5 megawatts each)
Sec. of	Efficiency	Units 11 thru 22 -10,700 btus per kwh
	Commission Date	2008
	Estimated Production Cost*	\$33.54/MWhr
	2016 Availability Factor	89.5%
	2016 Production/Capacity Factor	259,067 MWhrs / 4.6%
	Planned Retirement Date	2038
	Cost at Completion	\$414.0m
N/N	Net Book Value (12/31/2016)	Included in the Edward W. Clark Net Book Value
Č	Number of employees	Included in the Edward W. Clark staffing

**Notes:** Each of the 12 peaking units consist of two gas turbines - essentially jet engines. Each unit can be started and serve load within six minutes. The units were installed on the location of the original steam units - Units 1, 2 and 3 - which have been retired and removed.

### **Higgins Generating Station**







\*Assumes a fuel cost of \$3.00/mmbtu

btu - British thermal units mmbtu - one million btus Kwhr - kilowatt-hour MWhr - megawatt-hour

Location	Primm, Nevada	
Ownership	Nevada Power – 100%	
Туре	Baseload Combined Cycle	
Fuel	Natural Gas	
Peak Rating (at 112 degrees F)	530 megawatts	
Efficiency	7,360 btus per kilowatt	
Commission Date	Commissioned by Reliant in 2004; Purchased by NV Energy in 2008	
Estimated Production Cost*	\$22.02/MWhr	
2016 Availability Factor	95.5%	
2016 Production/Capacity Factor	3,512,565 MWhrs / 70.9%	
Planned Retirement Date	2039	
Cost at Completion	NV Energy purchased the plant for \$510.3m in 2008	
Net Book Value (12/31/2016)	\$421.0m	
Number of employees	21	

<u>Notes:</u> The Walter M. Higgins plant was originally a merchant offering built by Reliant. It consists of two gas turbines and one steam turbine. A unique feature of the facility is that it is supplied with reclaimed water from the local casinos for operations. The plant is located on leased land. The water is supplied under a separate water agreement.

### **Goodsprings Energy Recovery Station**







\*A fixed waste heat fee is paid to Kern River Gas Company

btu - British thermal units mmbtu - one million btus Kwhr - kilowatt-hour MWhr - megawatt-hour

Location	2 miles southeast of Goodsprings, Nevada			
Ownership	Nevada Power – 100%			
Туре	Heat Recovery			
Fuel	Waste Heat from three Kern River Gas Company gas-fired compressors			
Peak Rating (at 112 degrees F)	5.0 megawatts			
Commission Date	2010			
Estimated Production Cost*	Zero dollars for MWhr			
2016 Availability Factor	65.5%			
2016 Production/Capacity Factor	21,028 MWhrs / 44.8%			
Planned Retirement Date	2040			
Cost at Completion	\$23.4m			
Net Book Value (12/31/2016)	\$26.5m			
Number of employees	2			

<u>Notes:</u> The Goodsprings Energy Recovery Station is able to run only when the Kern River Gas Company is running one or more of the three large gas compressors located nearby. The gas compressors boost the pressure of the gas line for delivery into southern California. The plant sits on land leased from the Bureau of Land Management. The plant uses pentane to operate a single turbine. No combustion takes place however - the pentane is continually expanded and condensed.

### **Nellis Solar Array II**





\*A fixed fee is paid for operating and maintaining the plant

MWhr - megawatt-hour

Location	Located on Nellis Air Force Base		
Ownership	Nevada Power Company – 100%		
Туре	Single-axis tilting photovoltaic		
Fuel	No fuel		
Peak Rating (at 112 degrees F)	15.0 megawatts		
Commission Date	2015		
Estimated Production Cost*	Zero dollars for MWhr		
2016 Availability Factor	100%		
2016 Production/Capacity Factor	40,566 MWhrs / 30.8%		
Planned Retirement Date	2045		
Cost at Completion	\$52.9m		
Net Book Value (12/31/2016)	\$45.0m		
Number of employees	Zero - Operations and Maintenance under contract with original builder - SunPower		

<u>Notes:</u> The Nellis Solar Array II interconnects with a substation on the air base and is built on an inactive waste landfill. Coupled with the original solar array, the air base can have up to 100% of its power needs coming from on-site solar.

### **Navajo Generating Station**







\*Assumes a fuel cost of \$1.90/mmbtu

btu - British thermal units mmbtu - one million btus Kwhr - kilowatt-hour MWhr - megawatt-hour

Location	Northwest Arizona - near Page (on Navajo Nation land)		
Ownership	Nevada Power Company – 11.3%		
Туре	Baseload Coal-fired steam units		
Fuel	Coal from nearby Kayenta Mine		
Peak Rating (at 112 degrees F)	Three units- each rated at 750 megawatts for a total of 2,250 megawatts. Nevada Power's share is 255 megawatts		
Efficiency	10,100 btus per kilowatt		
Commission Date	1974, 1975 and 1976		
Estimated Production Cost*	\$19.80/MWhr		
2016 Availability Factor	89.9%		
2016 Production/Capacity Factor	1,346,932 MWhrs / 60.5%		
Planned Retirement Date	2019		
Cost at Completion	\$87.3m		
Net Book Value (12/31/2016)	\$57.1m		
Number of employees	400		

<u>Notes:</u> The Navajo Generating Station has five owners in addition to NV Energy - Salt River Project, Tucson Electric, Arizona Public Service, Bureau of Reclamation and Los Angeles Department of Water and Power. Salt River Project is the Operating Agent. The plant connects to the NV Energy grid at the Crystal Substation 20 miles north-northwest of the Las Vegas Motor Speedway. The costs for original construction and net book value applies only to Nevada Power Company's 11.3% ownership share.



# Long-Term Renewable and Non-Renewable Power Purchase Agreements



### **Estimated Remaining Obligations**



Contract Name  newable Power Purchase Agreements E Searchlight EX Landfill		\$ m	Contract Name	\$ m		
E Searchlight				Estimated Remaining Obligations (December 31, 2022 through Term)  Contract Name \$ m		
E Searchlight						
			Renewable Power Purchase Agreements			
EX Landfill	\$	89.00	Beowawe	21.0		
	\$	65.00	Boulder Solar II	114.0		
ulder Solar I	\$	180.00	Brady	-		
lorado River Commission-Hoover	\$	864.00	Burdette	37.0		
sert Peak 2	\$	27.00	Galena 3	62.0		
V Spectrum	\$	155.00	Homestretch	-		
lena 2	\$	16.00	Hooper	1.6		
sey Valley	\$	50.00	Kingston	0.5		
Ginness Hills	\$	622.00	Mill Creek	0.02		
untain View	\$	123.00	Nevada Solar One (SPPC)	40.00		
vada Solar One (NPC)	\$	85.00	RO Ranch	_		
SP Blue Mountain	\$	164.00	Sierra Pacific Industries	_		
Apex	\$	128.00	Soda Lake I	_		
It Wells	\$	54.00	Soda Lake II	-		
ver State	\$	296.00	Steamboat 1A			
ring Valley	\$	394.00	Steamboat Hills			
llwater (Geothermal and Solar Photovoltaic)	\$	132.00	Steamboat 2			
nopah Crescent Dunes	\$	1,377.00	Steamboat 3			
scarora	\$	145.00	TCID New Lahontan	8.00		
M Renewable Energy-Lockwood	\$	23.00	TMWA Fleish	4.00		
al	\$	4,989.00	TMWA Verdi	5.00		
iui		1,505.00	TMWA Washoe	3.00		
newable Portfolio Energy Credit Agreements			USG San Emidio	118.00		
llis I (Solar Star)	\$	34.00	Total	414.12		
` '		34.00	Total	414.14		
eamboat 1A	\$	-				
nPower (LVVWD)	\$	4.00	Leased Units			
tal	\$	38.00	Fort Churchill Solar	54.00		
newable Power Purchase Agreements (Pre-Commercial)			Renewable Portfolio Energy Credit Agreements			
ritch Station 1	\$	247.00	TMWRF	0.0		
ritch Station 2 (NPC)	\$	61.00				
chren 1	\$	259.00	Renewable Power Purchase Agreements (Pre-Commercial)			
tal	\$	567.00	Switch Station 2 (SPPC)	112.00		
iui			Techren 2	499.00		
n-Renewable Power Purchase Agreements			Total	611.00		
	•	24.00	Total	011.00		
vada Cogeneration Associates #1	\$	24.00	Non Denoughle Directors Ages			
vada Cogeneration Associates #2	\$	18.00	Non-Renewable Purchase Agreements			
guaro Power Company	\$	-	Newmont	10.00		
ffith Energy	\$		Liberty (CalPeco) EBSA	12.00		
tal	\$	42.00	Total	22.00		
and Total Estimated Remaining Obligations	\$	5,636.00	Grand Total Estimated Remaining Obligations	1,101.1		
tes:						
Energy Total		<u>\$ m</u>				
and Total Estimated Remaining Obligations	\$	6,737.17				

Note: Estimated Remaining Obligation per Agreement = Annual Contractual Supply Amount (in Megawatt-hours) times Price (per Megawatt-hour) times Remaining Term.

### **Examples of Solar**





Nevada Solar One



Stillwater Solar PV



**Crescent Dunes** 

### **Examples of Solar**





Apex Nevada Solar



Boulder Solar I



Nellis Solar Array II

### **Examples of Hydro & Wind**





**Hoover Dam** 



Spring Valley Wind

### Nevada Power Company d/b/a NV Energy



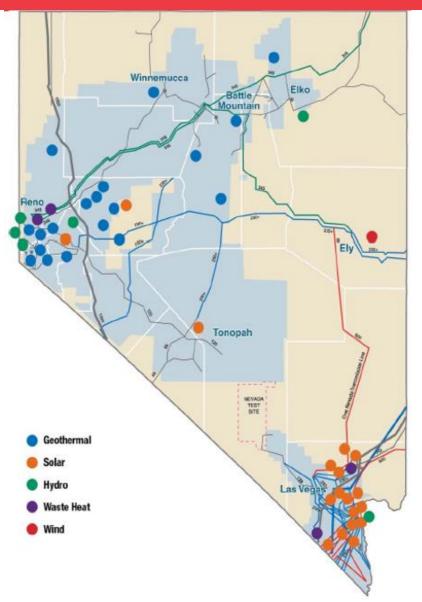
## Long-Term Renewable and Non-Renewable Power Purchase Agreements

### **Overview**

3. NPC shall sell 43,200 kPCs for three years .

4. Non-Qualifying Facility price per Megawatt-hour \$63.79, Qualifying Facility price per Megawatt-hour \$79.74. S=Single Axis Tracking, T=Solar Thermal (Tracking), F=Fixed Tilt





		Capacity	2017 Price per	Commercial	Termination
Contract Name	Contract Type	(Megawatts)	Megawatt-hour	Operation Date	Date
Renewable Power Purchase Agreements					
ACE Searchlight <sup>QF</sup>	Solar <sup>5</sup>	17.50	\$ 139.75	12/16/2014	12/31/2034
APEX Landfill <sup>QF</sup>	Methane	12.00	\$ 99.69	3/1/2012	12/31/203
Boulder Solar I	Solar <sup>s</sup>	100.00	\$ 46.00	12/9/2016	12/31/203
Colorado River Commission-Hoover (RPS Excluded)	Hydro	237.60	\$ 27.00	6/1/1987	9/30/2017
Desert Peak 2 <sup>QF</sup>	Geothermal	25.00	\$ 49.50	4/17/2007	12/31/202
FRV Spectrum <sup>QF</sup>	Solar <sup>s</sup>	30.00	\$ 114.65	9/23/2013	12/31/203
Galena 2 <sup>QF</sup>	Geothermal	13.00	\$ 47.50	5/2/2007	12/31/202
Jersey Valley <sup>QF</sup>	Geothermal	22.50	\$ 67.49	8/30/2011	12/31/203
McGinness Hills <sup>QF</sup>	Geothermal	96.00	\$ 87.23	6/20/2012	12/31/203
Mountain View	Solar <sup>S</sup>	20.00	\$ 119.46	1/5/2014	12/31/203
Nevada Solar One (NPC) <sup>QF</sup>	Solar <sup>T</sup>	46.90	\$ 195.83	6/27/2007	12/31/202
NGP Blue Mountain QF	Geothermal	49.50	\$ 83.70	11/20/2009	12/31/202
		20.00	\$ 134.28		
RV Apex QF	Solar <sup>S</sup>			7/21/2012	12/31/203
Salt Wells <sup>QF</sup>	Geothermal	23.60		9/18/2009	12/31/202
Silver State	Solar	52.00	\$ 138.28	4/25/2012	12/31/203
Spring Valley	Wind	151.80	\$ 102.31	8/16/2012	12/31/203
Stillwater Geothermal <sup>QF</sup>	Geothermal	47.20	\$ 72.52	10/10/2009	12/31/202
Stillwater PV <sup>1,QF</sup>	Solar <sup>F</sup>	22.00	\$ 102.28	3/5/2012	12/31/202
Tonopah Crescent Dunes	Solar <sup>™</sup>	110.00	\$ 136.41	11/9/2015	12/31/204
Tuscarora <sup>QF</sup>	Geothermal	32.00	\$ 92.42	1/11/2012	12/31/203
WM Renewable Energy-Lockwood <sup>QF</sup>	Methane	3.20	\$ 84.92	4/1/2012	12/31/203
		1131.80			
Renewable Portfolio Energy Credit Agreeme	nts				
NPC-SPPC	Geothermal	2.25	\$ 22.87	10/30/2009	12/31/202
Nellis I (Solar Star)	Solar	13.20	\$ 91.79	12/15/2007	12/31/202
Steamboat 1A	Geothermal	2.00	N/A	12/13/1988	12/13/201
SunPower (LVVWD)	Solar	3.01	\$ 88.57	4/20/2006	12/31/202
,		20.46			
	2				
Renewable Power Purchase Agreements (Pre					
Switch Station 1	Solar <sup>S</sup>	100.00	\$ 38.70	7/31/2017	12/31/203
Switch Station 2 (NPC)	Solar <sup>s</sup>	27.70	\$ 38.70	9/30/2017	12/31/203
Techren 1	Solar <sup>S</sup>	100.00	\$ 33.99	1/1/2019	12/31/204
		227.70			
Non-Renewable Power Purchase Agreement	<u>s</u>				
Nevada Cogeneration Associates #1 <sup>QF</sup>	Natural Gas	85.00	\$ 97.26	6/18/1992	4/30/2023
Nevada Cogeneration Associates #2 <sup>QF</sup>	Natural Gas	85.00	\$ 73.28	2/1/1993	4/30/2023
Saguaro Power Company <sup>4</sup>	Natural Gas	90.00	\$ 63.79	10/17/1991	4/30/2022
Griffith Energy	Natural Gas (Gas Tolling-	570.00	Varies	6/1/2008	9/30/2017
Griffith Energy	Summer Only)		varies	0/1/2008	3/30/2017
		830.00			
Renewable and Non-Renewable Sales Agreer					
	NGR Agreement (Sale of PCs)	See Note 3		12/9/2016	12/31/201
Switch NGR (Switch Station 1) <sup>2</sup>	NGR Agreement (Sale of PCs)	100.00		7/31/2017	12/31/203
Switch NGR-NPC (Switch Station 2) <sup>2</sup>	NGR Agreement (Sale of PCs)	27.70		9/30/2017	12/31/203

## ACE Searchlight Renewable Power Purchase Agreement



Owner	DE Shaw Renewables
Туре	Solar Photovoltaic
Location	Searchlight, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	17.50 Megawatts
Commercial Operation Date	December 16, 2014
Termination Date	December 31, 2034
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$139.75 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	43,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$89.00m
NV Energy Purchase Obligation	Purchase all output from Project

## APEX Landfill Renewable Power Purchase Agreement



Owner	Republic Services
Туре	Landfill Gas
Location	Apex, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	12.00 Megawatts
Commercial Operation Date	March 1, 2012
Termination Date	December 31, 2032
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$99.69 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	59,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$65.00m
NV Energy Purchase Obligation	Purchase all output from Project

### Boulder Solar I Renewable Power Purchase Agreement



Owner	Southern Company
Туре	Solar Photovoltaic
Location	Boulder City, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	100.00 Megawatts
Commercial Operation Date	December 9, 2016
Termination Date	December 31, 2036
2017 Price (0% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$46.00 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	289,000 Megawatt-hours (.25% annual degradation factor)
Estimated Remaining Obligation (December 31, 2022 through Term)	\$180.00m
NV Energy Purchase Obligation	Purchase all output from Project

Note: Under an NGR Agreement, NV Energy sells the City of Las Vegas a portion of the Portfolio Energy Credits from Boulder Solar I for three years.

### Colorado River Commission-Hoover New Renewable Power Purchase Agreement



Owner	Bureau of Reclamation (U.S. Department of Interior)
Туре	Hydro
Location	Nevada/Arizona Border (Colorado River)
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	237.60 Megawatts
Commercial Operation Date	October 1, 2017
Termination Date	September 30, 2067
2017 Price (Cost Based Annual Escalation Rate)	\$27 per Megawatt-hour (est.)
Annual Contractual Supply Amount	380,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$864.00m (assumes satisfactory Lake Mead water levels and 2% annual escalation rate)
NV Energy Purchase Obligation	Purchase all output from Project

Notes: Existing 50-year power agreement terminates on September 30, 2017. Last 12 months payments = \$10 m. The output from the Hoover Hydro Project does not count towards compliance with the State of Nevada's Renewable Portfolio Standard. The output from the Hoover Hydro Project is dependent on satisfactory Lake Mead water levels.

## Desert Peak 2 Renewable Power Purchase Agreement



Owner	Ormat
Туре	Geothermal
Location	Fernley, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	25.00 Megawatts
Commercial Operation Date	April 17, 2007
Termination Date	December 31, 2027
2017 Price (0% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$49.50 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	110,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$27.00m
NV Energy Purchase Obligation	Purchase all output from Project

## FRV Spectrum Renewable Power Purchase Agreement



Owner	Southern Company
Туре	Solar Photovoltaic
Location	Las Vegas, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	30.00 Megawatts
Commercial Operation Date	September 23, 2013
Termination Date	December 31, 2038
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$114.65 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	74,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$155.00m
NV Energy Purchase Obligation	Purchase all output from Project

## Galena 2 Renewable Power Purchase Agreement



Owner	Ormat
Туре	Geothermal
Location	Reno, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	13.00 Megawatts
Commercial Operation Date	May 2, 2007
Termination Date	December 31, 2027
2017 Price (0% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$47.50 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	66,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$16.00m
NV Energy Purchase Obligation	Purchase all output from Project

## Jersey Valley Renewable Power Purchase Agreement



Owner	Ormat
Туре	Geothermal
Location	Lovelock, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	22.50 Megawatts
Commercial Operation Date	August 30, 2011
Termination Date	December 31, 2031
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$67.49 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	74,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$50.00m
NV Energy Purchase Obligation	Purchase all output from Project

### McGinness Hills Renewable Power Purchase Agreement



Owner	Ormat
Туре	Geothermal
Location	Austin, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	96.00 Megawatts
Commercial Operation Date	June 20, 2012
Termination Date	December 31, 2032
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$87.23 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	642,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$622.00m
NV Energy Purchase Obligation	Purchase all output from Project

### Mountain View Renewable Power Purchase Agreement



Owner	NextEra
Туре	Solar Photovoltaic
Location	Apex, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	20.00 Megawatts
Commercial Operation Date	January 5, 2014
Termination Date	December 31, 2039
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$119.46 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	53,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$123.00m
NV Energy Purchase Obligation	Purchase all output from Project

#### Nevada Solar One Renewable Power Purchase Agreement



Owner	Acciona
Туре	Concentrated Solar
Location	Boulder City, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	46.90 Megawatts
Commercial Operation Date	June 27, 2007
Termination Date	December 31, 2027
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$195.83 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	80,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$85.00m
NV Energy Purchase Obligation	Purchase all output from Project

Note: The output of Nevada Solar One (69 Megawatts) is split between two contracts, one with Nevada Power Company (46.9 Megawatts) and one with Sierra Pacific Power Company (22.1 Megawatts).

#### NGP Blue Mountain Renewable Power Purchase Agreement



Owner	AltaRock
Туре	Geothermal
Location	Blue Mountain, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	49.50 Megawatts
Commercial Operation Date	November 20, 2009
Termination Date	December 31, 2029
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$83.70 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	255,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$164.00m
NV Energy Purchase Obligation	Purchase all output from Project

#### RV Apex Renewable Power Purchase Agreement



Owner	Southern Company
Туре	Solar Photovoltaic
Location	Apex, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	20.00 Megawatts
Commercial Operation Date	July 21, 2012
Termination Date	December 31, 2037
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$134.28 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	56,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$128.00m
NV Energy Purchase Obligation	Purchase all output from Project

# Salt Wells Renewable Power Purchase Agreement



Owner	Enel
Туре	Geothermal
Location	Fallon, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	23.60 Megawatts
Commercial Operation Date	September 18, 2009
Termination Date	December 31, 2029
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$67.70 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	108,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$54.00m
NV Energy Purchase Obligation	Purchase all output from Project

## Silver State Renewable Power Purchase Agreement



Owner	Enbridge
Туре	Solar Photovoltaic
Location	Primm, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	52.00 Megawatts
Commercial Operation Date	April 25, 2012
Termination Date	December 31, 2037
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$138.28 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	125,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$296.00m
NV Energy Purchase Obligation	Purchase all output from Project

# Spring Valley Renewable Power Purchase Agreement



Owner	Pattern
Туре	Wind
Location	Ely, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	151.80 Megawatts
Commercial Operation Date	August 16, 2012
Termination Date	December 31, 2032
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$102.31 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	347,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$394.00m
NV Energy Purchase Obligation	Purchase all output from Project

### Stillwater Renewable Power Purchase Agreement



Owner	Enel
Туре	Geothermal and Solar Photovoltaic
Location	Fallon, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	69.20 Megawatts (Geothermal = 47.20 Megawatts, Solar Photovoltaic = 22.00 Megawatts)
Commercial Operation Date	October 10, 2009
Termination Date	December 31, 2029
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	Geothermal (\$72.52 per Megawatt-hour), Solar (\$102.28 per Megawatt-hour)
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	Geothermal (160,000 Megawatt-hours), Solar (99,000 Megawatt-hours includes 2.4 solar multiplier)
Estimated Remaining Obligation (December 31, 2022 through Term)	\$132.00m
NV Energy Purchase Obligation	Purchase all output from Project

Note: Per State Law, Project receives 2.4 solar multiplier since energy is consumed onsite (1 Megawatt-Hour = 2400 Portfolio Energy Credits).

# Tonopah Crescent Dunes Renewable Power Purchase Agreement



Owner	SolarReserve
Туре	Solar Thermal with Storage
Location	Tonopah, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	110.00 Megawatts
Commercial Operation Date	November 9, 2015
Termination Date	December 31, 2040
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$136.41 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	485,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$1,377.00m
NV Energy Purchase Obligation	Purchase all output from Project

### Tuscarora Renewable Power Purchase Agreement



Owner	Ormat
Туре	Geothermal
Location	Tuscarora, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	32.00 Megawatts
Commercial Operation Date	January 11, 2012
Termination Date	December 31, 2032
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$92.42 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	142,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$145.00m
NV Energy Purchase Obligation	Purchase all output from Project

Note: Ormat has a contractual expansion option to add 16-18 Megawatts of additional capacity to the Tuscarora Project by mid-2019.

#### WM Renewable Energy-Lockwood Renewable Power Purchase Agreement



Owner	WM Renewable Energy
Туре	Landfill Gas
Location	Sparks, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	3.20 Megawatts
Commercial Operation Date	April 1, 2012
Termination Date	December 31, 2032
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$84.92 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	25,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$23.00m
NV Energy Purchase Obligation	Purchase all output from Project

# NPC-SPPC Renewable Portfolio Energy Credit Agreement



Owner	NV Energy
Туре	Geothermal
Location	Las Vegas, Nevada
NV Energy Contracting Utility	Nevada Power Company - NPC (Buyer) and Sierra Pacific Power Company – SPPC (Seller)
Nameplate Capacity	2.30 Megawatts
Commercial Operation Date	October 30, 2009
Termination Date	December 31, 2028
2017 Price (Annual Escalation Rate (varies))	\$22.87 per 1,000 Portfolio Energy Credits
Annual Contractual Supply Amount	20m Portfolio Energy Credits
Estimated Remaining Obligation (December 31, 2022 through Term)	\$3.00m
NV Energy Purchase Obligation	NPC purchases specified amount SPPC

# Nellis I (Solar Star) Renewable Portfolio Energy Credit Agreement



Owner	TerraForm
Туре	Solar Photovoltaic
Location	Las Vegas, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	13.20 Megawatts
Commercial Operation Date	December 15, 2007
Termination Date	December 31, 2027
2017 Price (1% Annual Escalation Rate)	\$91.79 per 1,000 Portfolio Energy Credits
Annual Contractual Supply Amount	70m Portfolio Energy Credits (includes 2.45 solar multiplier)
Estimated Remaining Obligation (December 31, 2022 through Term)	\$34.00m
NV Energy Purchase Obligation	Purchase all output from Project

Note: Per State Law, project receives 2.45 solar multiplier since energy is consumed onsite (1 Megawatt-Hour = 2450 Portfolio Energy Credits).

# Steamboat 1A Renewable Portfolio Energy Credit Agreement



Owner	Ormat
Туре	Geothermal
Location	Reno, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	2.00 Megawatts
Commercial Operation Date	December 13, 1988
Termination Date	December 13, 2018
Price Per Portfolio Energy Credit (x1000)	N/A (Facility is Indefinitely Shutdown)
Annual Contractual Supply Amount	N/A (Facility is Indefinitely Shutdown)
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.00
NV Energy Purchase Obligation	Purchase all output from Project

# SunPower (LVVWD) Renewable Portfolio Energy Credit Agreement



Owner	Las Vegas Valley Water District (LVVWD)
Туре	Solar Photovoltaic
Location	Las Vegas, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	3.00 Megawatts
Commercial Operation Date	April 20, 2006
Termination Date	December 31, 2026
2017 Price (1% Annual Escalation Rate)	\$88.57 per 1,000 Portfolio Energy Credits
Annual Contractual Supply Amount	12m Portfolio Energy Credits (includes 2.45 solar multiplier)
Estimated Remaining Obligation (December 31, 2022 through Term)	\$4.00m
NV Energy Purchase Obligation	Purchase all output from Project

Note: Per State Law, Project receives 2.45 solar multiplier since energy is consumed onsite (1 Megawatt-Hour = 2450 Portfolio Energy Credits).

### Switch Station 1 Renewable Power Purchase Agreement (Pre-Commercial)

Owner	EDF Renewable Energy, Inc.
Туре	Solar Photovoltaic
Location	Apex, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	100.00 Megawatts
Commercial Operation Date (estimated)	July 31, 2017
Termination Date	December 31, 2037
2017 Price (3% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$38.70 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	308,000 Megawatt-hours (.5% annual degradation factor)
Estimated Remaining Obligation (December 31, 2022 through Term)	\$247.00m
NV Energy Purchase Obligation	Purchase all output from Project

Note: Under an NGR Agreement, NV Energy will sell Switch Ltd. all the Portfolio Energy Credits from Switch Station 1.

### Switch Station 2 Renewable Power Purchase Agreement (Pre-Commercial)

Owner	EDF Renewable Energy, Inc.
Туре	Solar Photovoltaic
Location	Apex, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	27.70 Megawatts
Commercial Operation Date (estimated)	September 30, 2017
Termination Date	December 31, 2037
2017 Price (3% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$38.70 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	77,000 Megawatt-hours (.5% annual degradation factor)
Estimated Remaining Obligation (December 31, 2022 through Term)	\$61.00m
NV Energy Purchase Obligation	Purchase all output from Project

Notes: Under an NGR Agreement, NV Energy will sell Switch Ltd. all the Portfolio Energy Credits from Switch Station 2. The output of Switch Station 2 (79 Megawatts) is split between two contracts, one with Nevada Power Company (27.7 Megawatts) and one with Sierra Pacific Power Company (51.3 Megawatts).

### Techren 1 Renewable Power Purchase Agreement (Pre-Commercial)

Owner	174 Power Global (Hanwha)
Туре	Solar Photovoltaic
Location	Boulder City, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	100.00 Megawatts
Commercial Operation Date (estimated)	January 1, 2019
Termination Date	December 31, 2043
2017 Price (2% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$33.99 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	286,000 Megawatt-hours (.3% annual degradation factor)
Estimated Remaining Obligation (December 31, 2022 through Term)	\$259.00m
NV Energy Purchase Obligation	Purchase all output from Project

# Nevada Cogeneration Associates #1 Non-Renewable Power Purchase Agreement



Owner	Northern Star Generation
Туре	Cogeneration Gas-Fired Combined Cycle
Location	Las Vegas, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	85.00 Megawatts
Commercial Operation Date	June 18, 1992
Termination Date	April 30, 2023
2017 Price (CPI, etc. Annual Escalation Rate)	\$97.26 per Megawatt-hour
Annual Contractual Supply Amount	745,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$24.00m
NV Energy Purchase Obligation	Purchase all output from Project

#### Nevada Cogeneration Associates #2 Non-Renewable Power Purchase Agreement



Owner	Rockland Capital
Туре	Cogeneration Gas-Fired Combined Cycle
Location	Las Vegas, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	85.00 Megawatts
Commercial Operation Date	February 1, 1993
Termination Date	April 30, 2023
2017 Price (CPI, etc. Annual Escalation Rate)	\$73.28 per Megawatt-hour
Annual Contractual Supply Amount	745,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$18.00m
NV Energy Purchase Obligation	Purchase all output from Project

# Saguaro Non-Renewable Power Purchase Agreement



Owner	NGR Energy, MSD Capital, Paragon Energy
Туре	Cogeneration Gas-Fired Combined Cycle
Location	Las Vegas, Nevada
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	90.00 Megawatts
Commercial Operation Date	October 17, 1991
Termination Date	April 30, 2022
2017 Price (CPI, etc. Annual Escalation Rate)	\$63.79 per Megawatt-hour (non-Qualifying Facility rate) \$79.74 per Megawatt-hour (Qualifying Facility rate)
Annual Contractual Supply Amount	788,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.00
NV Energy Purchase Obligation	Purchase all output from Project

# Griffith Non-Renewable Power Purchase Agreement



Owner	Star West Generation
Туре	Gas-Fired Combined Cycle
Location	Kingman, Arizona
NV Energy Contracting Utility	Nevada Power Company
Nameplate Capacity	570.00 Megawatts
Commercial Date	June 1, 2008 (summer only)
Termination Date	September 30, 2017
2017 Capacity Payments	\$50m
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.00
NV Energy Purchase Obligation	Purchase the right to dispatch project at 0 (min) – 570 (max) Megawatts per hour.

#### **Examples of Solar**





Silver State



**Tonopah Crescent Dunes** 



**FRV Spectrum** 



Nellis II

#### **Examples of Geothermal**





McGinness Hills

**Steamboat Complex** 



**NGP Blue Mountain** 

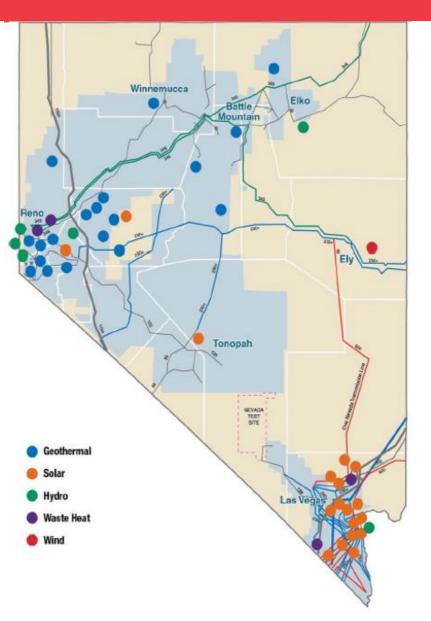
#### Sierra Pacific Power Company d/b/a NV Energy



# Long-Term Renewable and Non-Renewable Power Purchase Agreements

#### **Overview**





		Capacity	2017 Price	Commercial	Termination
Contract Name	Contract Type	(Megawatts)	per	Operation Date	Date
Renewable Power Purchase Agreements					
Beowawe <sup>QF</sup>	Geothermal	17.70	\$ 59.49	4/21/2006	12/31/2025
Boulder Solar II	Solar <sup>s</sup>	50.00	\$ 39.90	1/27/2017	12/31/2037
Brady <sup>QF</sup>	Geothermal	24.00	\$ 75.86	7/30/1992	7/29/2022
Burdette <sup>QF</sup>	Geothermal	26.00	\$ 54.91	2/28/2006	12/31/2026
Galena 3 <sup>QF</sup>	Geothermal	26.50	\$ 63.32	2/21/2008	12/31/2028
Homestretch <sup>QF</sup>	Geothermal	5.58	\$ 132.01	6/1/1987	12/31/2018
Hooper <sup>1,QF</sup>	Hydro	0.75	\$ 21.21	6/23/2016	12/31/2040
Kingston	Hydro	0.18	\$ 21.21	9/19/2011	12/31/2040
Mill Creek	Hydro	0.04	\$ 21.21	9/1/2011	12/31/2040
Nevada Solar One (SPPC) QF	Solar <sup>T</sup>	22.10	\$ 195.83	6/27/2007	12/31/2027
RO Ranch <sup>2</sup>	Hydro	0.23	N/A	3/15/2011	12/31/2040
Sierra Pacific Industries <sup>2,QF</sup>	Biomass	23.00	N/A	11/8/1989	11/7/2019
Soda Lake I <sup>QF</sup>	Geothermal	3.60	\$ 58.09	12/31/1987	12/31/2018
Soda Lake II <sup>QF</sup>	Geothermal	19.50	\$ 59.84	8/4/1991	8/4/2021
Steamboat 1A <sup>2,QF</sup>	Geothermal	2.00	N/A	12/13/1988	12/13/2018
Steamboat Hills <sup>QF</sup>	Geothermal	14.55	\$ 118.59	2/23/1988	2/22/2018
Steamboat 2 <sup>QF</sup>	Geothermal	13.40	\$ 69.34	12/13/1992	12/12/2022
Steamboat 3 <sup>QF</sup>	Geothermal	13.40	\$ 67.76	12/19/1992	12/18/2022
TCID New Lahontan QF	Hydro	4.00	\$ 72.42	6/12/1989	6/11/2039
TMWA Fleish <sup>QF</sup>	,	2.40	\$ 71.76	5/16/2008	6/1/2028
	Hydro				
TMWA Verdi <sup>QF</sup>	Hydro	2.40		5/15/2009	6/1/2029
TMWA Washoe <sup>QF</sup>	Hydro	2.50	\$ 71.87	7/25/2008	6/1/2028
USG San Emidio <sup>QF</sup>	Geothermal	11.75 285.57	\$ 93.94	5/25/2012	12/31/2037
Leased Units		200.07			
Fort Churchill Solar	Solar <sup>S</sup>	19.50	Varies	8/5/2015	8/4/2040
		15.50	varies	8/3/2013	8/4/2040
Renewable Portfolio Energy Credit Agree					
TMWRF	Methane	0.80	\$ 5.00	9/9/2005	12/12/2024
Renewable Power Purchase Agreements	(Pre-Commercial) <sup>3</sup>				
Switch Station 2 (SPPC)	Solar <sup>s</sup>	51.30	\$ 38.70	9/30/2017	12/31/2037
Techren 2	Solar <sup>s</sup>	200.00	\$ 31.15	7/1/2019	12/31/2044
	Soldi	251.30	<b>V</b> 02.20	1,2,2025	22,02,2011
Non-Renewable Purchase Agreements					
Newmont Nevada Energy Investment	Coal	179.00	\$ 26.88	6/1/2008	5/31/2023
Liberty (CalPeco) EBSA	Diesel	12.00	Varies	1/1/2011	12/31/2031
		191.00			
Renewable & Non-Renewable Sales Agre	ements				
Liberty (CalPeco)	Full Requirements (Capacity/Energy/PCs)	See Note 4		1/1/2016	12/29/2020
NPC-SPPC	Sale of PCs (Geothermal)	2.25		10/30/2009	12/31/2028
Apple NGR (Fort Churchill Solar)	NGR Agreement (Sale of PCs)	19.50		8/5/2015	8/4/2040
Apple NGR (Boulder Solar II)	NGR Agreement (Sale of PCs)	50.00		1/27/2017	12/31/2037
Switch NGR-SPPC (Switch Station 2) <sup>3</sup>	NGR Agreement (Sale of PCs)	51.30		9/30/2017	12/31/2037
Apple NGR (Techren 2) <sup>3</sup>	NGR Agreement (Sale of PCs)	200.00		7/1/2019	12/31/2044
Notes:					

Facilities are either under development or construction (the dates shown are expected dates).
 The current monthly contract demand ranges from approximately 70 MW (June) to 140 MW (December).

S=Single Axis Tracking, T=Solar Thermal (Tracking), F=Fixed Tilt

### Beowawe Renewable Power Purchase Agreement



Owner	Terra-Gen
Туре	Geothermal
Location	Battle Mountain, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	17.70 Megawatts
Commercial Operation Date	April 21, 2006
Termination Date	December 31, 2025
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$59.49 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	112,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$21.00m
NV Energy Purchase Obligation	Purchase all output from Project

### **Boulder Solar II Renewable Power Purchase Agreement**



Owner	AEP Renewables
Туре	Solar Photovoltaic
Location	Boulder City, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	50.00 Megawatts
Commercial Operation Date	January 27, 2017
Termination Date	December 31, 2037
2017 Price (3% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$39.90 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	137,000 Megawatt-hours (.25% annual degradation factor)
Estimated Remaining Obligation (December 31, 2022 through Term)	\$114.00m
NV Energy Purchase Obligation	Purchase all output from Project

Note: Under an NGR Agreement, NV Energy sells Apple Inc. all the Portfolio Energy Credits from Boulder Solar II.

# Brady Renewable Power Purchase Agreement



Owner	Ormat
Туре	Geothermal
Location	Fallon, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	24.00 Megawatts
Commercial Operation Date	July 30, 1992
Termination Date	July 29, 2022
2017 Price (CPI, etc. Annual Escalation Rate) includes associated Portfolio Energy Credits	\$75.86 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	53,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.00
NV Energy Purchase Obligation	Purchase all output from Project

# Burdette Renewable Power Purchase Agreement



Owner	Ormat
Туре	Geothermal
Location	Reno, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	26.00 Megawatts
Commercial Operation Date	February 28, 2006
Termination Date	December 31,2026
2017 Price (CPI, etc. Annual Escalation Rate) includes associated Portfolio Energy Credits	\$54.91 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	156,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$37.00m
NV Energy Purchase Obligation	Purchase all output from Project

# Galena 3 Renewable Power Purchase Agreement



Owner	Ormat
Туре	Geothermal
Location	Reno, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	26.50 Megawatts
Commercial Operation Date	February 21, 2008
Termination Date	December 31, 2028
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$63.32 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	151,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$62.00m
NV Energy Purchase Obligation	Purchase all output from Project

#### Homestretch Renewable Power Purchase Agreement



Owner	Homestretch
Туре	Geothermal
Location	Yerington, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	5.58 Megawatts
Commercial Operation Date	June 1, 1987
Termination Date	December 31, 2018
Price includes associated Portfolio Energy Credits	\$132.01 per Megawatt-hour (2017) and \$52.26 per Megawatt-hour (2018)
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	10,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.00
NV Energy Purchase Obligation	Purchase all output from Project

### Hooper Purchase Agreement



Owner	Hooper
Туре	Hydro
Location	Lamoille, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	.75 Megawatts
Commercial Operation Date	June 23, 2016
Termination Date	December 31, 2040
Price	Tied to Hourly Market/Incremental Generation Costs (Estimated 2017 per Megawatt-hour = \$21.21)
Annual Contractual Supply Amount	2,500 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$1.60m
NV Energy Purchase Obligation	Purchase all output from Project

### Kingston Renewable Power Purchase Agreement



Owner	Young Brothers
Туре	Hydro
Location	Kingston, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	.18 Megawatts
Commercial Operation Date	September 19, 2011
Termination Date	December 31, 2040
Price	Tied to Hourly Market/Incremental Generation Costs (Estimated 2017 per Megawatt-hour = \$21.21)
Annual Contractual Supply Amount	300 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.50m
NV Energy Purchase Obligation	Purchase all output from Project

# Mill Creek Renewable Power Purchase Agreement



Owner	Van Norman Ranches
Туре	Hydro
Location	Tuscarora, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	.04 Megawatts
Commercial Operation Date	September 1, 2011
Termination Date	December 31, 2040
Price	Tied to Hourly Market/Incremental Generation Costs (Estimated 2017 per Megawatt-hour = \$21.21)
Annual Contractual Supply Amount	44 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.02m
NV Energy Purchase Obligation	Purchase all output from Project

#### Nevada Solar One Renewable Power Purchase Agreement



Owner	Acciona
Туре	Concentrated Solar
Location	Boulder City, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	22.10 Megawatts
Commercial Operation Date	June 27, 2007
Termination Date	December 31, 2027
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$195.83 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	38,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$40.00m
NV Energy Purchase Obligation	Purchase all output from Project

Note: The output of Nevada Solar One (69 Megawatts) is split between two contracts, one with Nevada Power Company (46.9 Megawatts) and one with Sierra Pacific Power Company (22.1 Megawatts).

#### RO Ranch Renewable Power Purchase Agreement



Owner	BTAZ Nevada
Туре	Hydro
Location	Fallon, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	.23 Megawatts
Commercial Operation Date	March 15, 2011
Termination Date	December 31, 2040
Price Per Megawatt-Hour	N/A (Facility is Indefinitely Shutdown)
Annual Contractual Supply Amount	N/A (Facility is Indefinitely Shutdown)
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.00
NV Energy Purchase Obligation	Purchase all output from Project

### Sierra Pacific Industries Renewable Power Purchase Agreement



Owner	Sierra Pacific Industries
Туре	Biomass (Wood-Waste)
Location	Fallon, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	23.00 Megawatts
Commercial Operation Date	November 8, 1989
Termination Date	November 7, 2019
Price Per Megawatt-Hour	N/A (Facility is Indefinitely Shutdown)
Annual Contractual Supply Amount	N/A (Facility is Indefinitely Shutdown)
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.00
NV Energy Purchase Obligation	Purchase all output from Project

#### Soda Lake I Renewable Power Purchase Agreement



Owner	Cyrq
Туре	Geothermal
Location	Fallon, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	3.60 Megawatts
Commercial Operation Date	December 31, 1987
Termination Date	December 31, 2018
Price includes associated Portfolio Energy Credits	\$58.09 per Megawatt-hour (2017) and \$52.26 per Megawatt-hour (2018)
Annual Contractual Supply Amount	13,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.00
NV Energy Purchase Obligation	Purchase all output from Project

# Soda Lake II Renewable Power Purchase Agreement



Owner	Cyrq
Туре	Geothermal
Location	Fallon, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	19.50 Megawatts
Commercial Operation Date	August 4, 1991
Termination Date	August 4, 2021
2017 Price (CPI, etc. Annual Escalation Rate) includes associated Portfolio Energy Credits	\$59.84 per Megawatt-hour
Annual Contractual Supply Amount	55,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.00
NV Energy Purchase Obligation	Purchase all output from Project

### Steamboat 1A Renewable Power Purchase Agreement



Owner	Ormat
Туре	Geothermal
Location	Reno, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	2.00 Megawatts
Commercial Operation Date	December 13, 1988
Termination Date	December 13, 2018
Price Per Megawatt-Hour	N/A (Facility is Indefinitely Shutdown)
Annual Contractual Supply Amount	N/A (Facility is Indefinitely Shutdown)
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.00
NV Energy Purchase Obligation	Purchase all output from Project

## Steamboat Hills Renewable Power Purchase Agreement



Owner	Ormat
Туре	Geothermal
Location	Reno, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	14.55 Megawatts
Commercial Operation Date	February 23, 1988
Termination Date	February 22, 2018
2017 Price (CPI, etc. Annual Escalation Rate) includes associated Portfolio Energy Credits	\$118.59 per Megawatt-hour
Annual Contractual Supply Amount	87,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.00
NV Energy Purchase Obligation	Purchase all output from Project

### Steamboat 2 Renewable Power Purchase Agreement



Owner	Ormat
Туре	Geothermal
Location	Reno, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	13.40 Megawatts
Commercial Operation Date	December 13,1992
Termination Date	December 12, 2022
2017 Price (CPI, etc. Annual Escalation Rate) includes associated Portfolio Energy Credits	\$69.34 per Megawatt-hour
Annual Contractual Supply Amount	65,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.00
NV Energy Purchase Obligation	Purchase all output from Project

### Steamboat 3 Renewable Power Purchase Agreement



Owner	Ormat
Туре	Geothermal
Location	Reno, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	13.40 Megawatts
Commercial Operation Date	December 19,1992
Termination Date	December 18, 2022
2017 Price (CPI, etc. Annual Escalation Rate) includes associated Portfolio Energy Credits	\$67.76 per Megawatt-hour
Annual Contractual Supply Amount	72,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.00
NV Energy Purchase Obligation	Purchase all output from Project

#### TCID New Lahontan Renewable Power Purchase Agreement



Owner	Truckee Carson Irrigation District (TCID)
Туре	Hydro
Location	Fallon, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	4.00 Megawatts
Commercial Operation Date	June 12, 1989
Termination Date	June 11, 2039
2017 Price includes associated Portfolio Energy Credits	\$72.42 per Megawatt-hour (then tied to Hourly Market/Incremental Generation Costs from mid-2019 through Term)
Annual Contractual Supply Amount	11,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$8.00m
NV Energy Purchase Obligation	Purchase all output from Project

#### TMWA Fleish Renewable Power Purchase Agreement



Owner	Truckee Meadows Water Authority (TMWA)
Туре	Hydro
Location	Reno, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	2.40 Megawatts
Commercial Operation Date	May 16, 2008
Termination Date	June 1, 2028
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$71.76 per Megawatt-hour
Annual Contractual Supply Amount	11,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$4.00m
NV Energy Purchase Obligation	Purchase all output from Project

#### TMWA Verdi Renewable Power Purchase Agreement



Owner	Truckee Meadows Water Authority (TMWA)
Туре	Hydro
Location	Reno, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	2.40 Megawatts
Commercial Operation Date	May 15, 2009
Termination Date	June 1, 2029
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$71.11 per Megawatt-hour
Annual Contractual Supply Amount	9,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$5.00m
NV Energy Purchase Obligation	Purchase all output from Project

## TMWA Washoe Renewable Power Purchase Agreement



Owner	Truckee Meadows Water Authority (TMWA)
Туре	Hydro
Location	Reno, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	2.50 Megawatts
Commercial Operation Date	July 25, 2008
Termination Date	June 1, 2028
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$71.87 per Megawatt-hour
Annual Contractual Supply Amount	7,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$3.00m
NV Energy Purchase Obligation	Purchase all output from Project

# USG San Emidio Renewable Power Purchase Agreement



Owner	US Geothermal (USG)
Туре	Geothermal
Location	Gerlach, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	11.75 Megawatts
Commercial Operation Date	May 25, 2012
Termination Date	December 31, 2037
2017 Price (1% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$93.94 per Megawatt-hour
Annual Contractual Supply Amount	73,000 Megawatt-hours
Estimated Remaining Obligation (December 31, 2022 through Term)	\$118.00m
NV Energy Purchase Obligation	Purchase all output from Project

#### Ft. Churchill Solar Renewable Lease Agreement



Owner	Apple, Inc.
Туре	Concentrated Solar
Location	Yerington, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	19.50 Megawatts
Commercial Operation Date	August 5, 2015
Termination Date	August 4, 2040
Lease Price Per Year	\$3m
Annual Contractual Supply Amount	43,000 Megawatt-hours (.5% annual degradation factor)
Estimated Remaining Obligation (December 31, 2022 through Term)	\$54.00m
NV Energy Purchase Obligation	Purchase all output from Project

Notes: Under an NGR Agreement, NV Energy sells Apple Inc. all the Portfolio Energy Credits from the Ft. Churchill Solar. In addition, there are other related agreements with Apple, Inc. such as the land lease agreement (Apple Inc. pays NV Energy).

### TMWRF Renewable Portfolio Energy Credit Agreement



Owner	City of Sparks (Truckee Meadows Water Reclamation Facility (TMWRF))
Туре	Biogas
Location	Reno, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	.80 Megawatts
Commercial Operation Date	September 9, 2005
Termination Date	December 12, 2024
2017 Price (0% Annual Escalation Rate)	\$5.00 per 1,000 Portfolio Energy Credits
Annual Contractual Supply Amount	8m Portfolio Energy Credits
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.05m
NV Energy Purchase Obligation	Purchase all output from Project

# Switch Station 2 Renewable Power Purchase Agreement (Pre-Commercial)

Owner	EDF Renewable Energy, Inc.
Туре	Solar Photovoltaic
Location	Apex, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	51.30 Megawatts
Commercial Operation Date (estimated)	September 30, 2017
Termination Date	December 31, 2037
2017 Price (3% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$38.70 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	143,000 Megawatt-hours (.5% annual degradation factor)
Estimated Remaining Obligation (December 31, 2022 through Term)	\$112.00m
NV Energy Purchase Obligation	Purchase all output from Project

Notes: Under an NGR Agreement, NV Energy will sell Switch Ltd. all the Portfolio Energy Credits from Switch Station 2. The output of Switch Station 2 (79 Megawatts) is split between two contracts, one with Nevada Power Company (27.7 Megawatts) and one with Sierra Pacific Power Company (51.3 Megawatts).

# Techren 2 Renewable Power Purchase Agreement (Pre-Commercial)

Owner	174 Power Global (Hanwha)
Туре	Solar Photovoltaic
Location	Boulder City, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	200.00 Megawatts
Commercial Operation Date (estimated)	July 1, 2019
Termination Date	December 31, 2044
2017 Price (2% Annual Escalation Rate) includes associated Portfolio Energy Credits	\$31.15 per Megawatt-hour
Annual Contractual Supply Amount plus associated Portfolio Energy Credits	572,000 Megawatt-hours (.3% annual degradation factor)
Estimated Remaining Obligation (December 31, 2022 through Term)	\$499.00m
NV Energy Purchase Obligation	Purchase all output from Project

Note: Under an NGR Agreement, NV Energy will sell Apple Inc. all the Portfolio Energy Credits from Switch Station 2.

### Newmont Non-Renewable Power Purchase Agreement



Owner	Newmont
Туре	Coal
Location	TS Ranch, Nevada
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	179.00 Megawatts
Commercial Date	June 1, 2008
Termination Date	May 31, 2023
2017 Price (CPI, etc. Annual Escalation Rate)	\$26.88 per Megawatt-hour
Estimated Remaining Obligation (December 31, 2022 through Term) assuming 80 Megawatts per hour	\$10.00m
NV Energy Purchase Obligation	Purchase the right to dispatch Project at 80 (min) - 179 (max) Megawatts per hour

Note: Either party can terminate the agreement prior to 2023 with at least three year advanced written notice.

# Liberty (CalPeco) Non-Renewable Emergency Backup Service Agreemen

Owner	Liberty Utilities
Туре	Diesel
Location	Kings Beach, California
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	12.00 Megawatts
Commercial Date	January 1, 2011
Termination Date	December 31, 2031
2017 Capacity Payments (Cost Based Annual Escalation Rate)	\$1.3m
Estimated Remaining Obligation (December 31, 2022 through Term)	\$12.00m
NV Energy Purchase Obligation	Purchase the right to dispatch Project at 0 (min) – 12 (max) Megawatts per hour, subject to certain air permit limitations

### Liberty (CalPeco) Services Agreement (NV Energy is the Seller)



Owner	Liberty Utilities
Туре	Non-Renewable and Renewable
Location	Various NV Energy Units
NV Energy Contracting Utility	Sierra Pacific Power Company
Nameplate Capacity	Approximately 70.00 Megawatts (June) – 140.00 Megawatts (December)
Commercial Date	January 1, 2016
Termination Date	December 29, 2020
Estimated Remaining Obligation (December 31, 2022 through Term)	\$0.00
NV Energy Sales Obligation	Sell Capacity, Energy, and Certain Renewable Energy for Liberty (CalPeco)'s California Customers.

Note: Either party can terminate the agreement at the end of April 30, 2019 with advanced written notice by February 1, 2018.

# NPC-SPPC Renewable Portfolio Energy Credit Agreement



Owner	NV Energy
Туре	Geothermal
Location	Las Vegas, Nevada
NV Energy Contracting Utility	Nevada Power Company - NPC (Buyer) and Sierra Pacific Power Company – SPPC (Seller)
Nameplate Capacity	2.30 Megawatts
Commercial Operation Date	October 30, 2009
Termination Date	December 31, 2028
2017 Price (Annual Escalation Rate (varies))	\$22.87 per 1,000 Portfolio Energy Credits
Annual Contractual Supply Amount	20m Portfolio Energy Credits
Estimated Remaining Obligation (December 31, 2022 through Term)	\$3m
NV Energy Purchase Obligation	NPC purchases specified amount SPPC



#### Gas Transportation



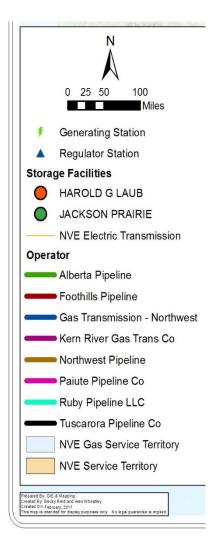
#### **Contract Obligation Summary: 2023-2046**

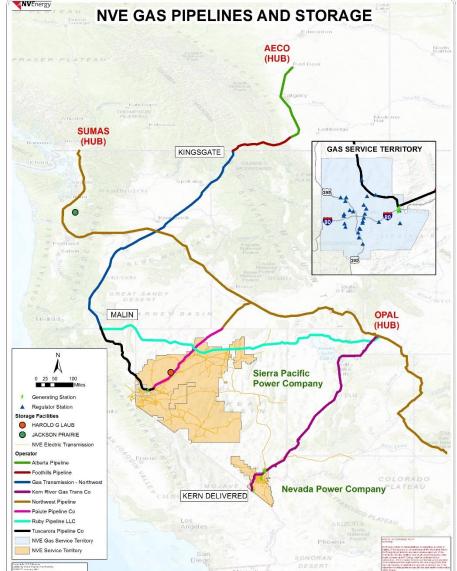


Description	Nominal Value from 2023 to Expiration (\$ in million)
TransCanada Alberta System	\$ 0.0
TransCanada Foothills System	\$ 0.3
TransCanada Gas Transmission Northwest	\$ 2.5
Northwest Pipeline	\$ 7.6
Paiute Pipeline	\$ 17.5
Tuscarora Gas Transmission	\$ 45.7
SPPC Total ESTIMATED Obligation of Gas Transportation Contracts (2023-2046)	\$ 73.6
Kern River Gas Transmission	\$ 468.1
NPC Total ESTIMATED Obligation of Gas Transportation Contracts (2023-2046)	\$ 468.1

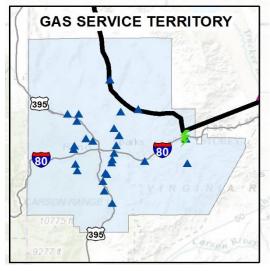
#### **Natural Gas Pipeline and Storage Resources**







	Pipeline 2019 \$'s		Dinalina 2010 éla		<b>NVE Contracted</b>
	ripeille	2019 \$ 8	Capacity MMBtu/d		
	Alberta	\$ 1,454,435	130,319		
	Foothills	\$ 417,224	128,932		
			79,899 Summer		
	GTN	\$ 2,937,161	140,169 Winter		
			558,925 Summer		
	Kern	\$54,620,008	521,425 Winter		
	Northwest	\$ 130,660	362,625		
			68,696 Summer		
	Paiute	\$ 8,419,540	61,044 Winter		
	Tuscarora	\$16,883,946	172,823		
			•		



#### **TransCanada – Alberta System**



Description	Detail
Owner	TC Pipelines, LP
Entire Gas Pipeline Path	Alberta to British Colombia
Gas Supply Basin (not owned by TransCanada Alberta)	Alberta, Western Canada
NV Energy Contracting Utility	Sierra Pacific Power Company
Number of Gas Transport Agreements with NV Energy	3
NV Energy Generation Stations Directly Connected to TransCanada Alberta	None
Pipeline Interconnections	Foothills System
Termination Dates of Gas Transport Agreements	2018 – 2019 (depends on agreement)
Total Contractual Capacity (million British Thermal Units per day)	Summer 130,319, Winter 130,319
ESTIMATED Dollars Remaining (Total Daily Contractual Amounts 2023 - Terms)	\$0 m

#### **TransCanada – Foothills System**



Description	Detail
Owner	TC Pipelines, LP
Entire Gas Pipeline Path	Central Alberta to US Border
Gas Supply Basin (not owned by TransCanada Foothills)	Alberta, Western Canada
NV Energy Contracting Utility	Sierra Pacific Power Company
Number of Gas Transport Agreements with NV Energy	10
NV Energy Generation Stations Directly Connected to TransCanada Foothills	None
Pipeline Interconnections	Alberta, Gas Transmission Northwest
Termination Dates of Gas Transport Agreements	2018 – 2023 (depends on agreement)
Total Contractual Capacity (million British Thermal Units per day)	Summer 128,932, Winter 128,932
ESTIMATED Dollars Remaining (Total Daily Contractual Amounts 2023 - Terms)	Nominal \$0.3 m

#### TransCanada – Gas Transmission Northwest (GTN)



Description	Detail
Owner	TC Pipelines, LP
Entire Gas Pipeline Path	Central Alberta to US Border
Gas Supply Basin (not owned by TransCanada Gas Transmission Northwest)	Alberta, Western Canada, Rockies
NV Energy Contracting Utility	Sierra Pacific Power Company
Number of Gas Transport Agreements with NV Energy	7
NV Energy Generation Stations Directly Connected to TransCanada GTN	None
Pipeline Interconnections	Tuscarora, Foothills
Termination Dates of Gas Transport Agreements	2018 – 2022 (depends on agreement)
Total Contractual Capacity (million British Thermal Units per day)	Summer 79,899, Winter 140,169
ESTIMATED Dollars Remaining (Total Daily Contractual Amounts 2023 - Terms)	Nominal \$2.5 m

#### **Northwest Pipeline**



Description	Detail
Owner	Williams Partners L.P.
Entire Gas Pipeline Path	From US-Canadian Border in Washington through Oregon, Idaho, Wyoming, Utah and Colorado
Gas Supply Basin (not owned by Northwest Pipeline)	Rockies, Canada and San Juan
NV Energy Contracting Utility	Sierra Pacific Power Company
Number of Gas Transport Agreements with NV Energy	2 Transportation, 1 Storage
NV Energy Generation Stations Directly Connected to Northwest Pipeline	None
Pipeline Interconnections	Paiute
Termination Dates of Gas Transport Agreements	2018 – 2046 (depends on agreement)
Total Contractual Capacity (million British Thermal Units per day)	Summer 362,625, Winter 362,625
ESTIMATED Dollars Remaining (Total Daily Contractual Amounts 2023 - Terms)	Nominal \$7.6 m

Assumes Northwest contracts will be renewed up to 2022. Northwest contracts must continue to be renewed to serve the LDC after 2023.

#### **Paiute Pipeline**



Description	Detail
Owner	Southwest Gas Holdings, Inc.
Entire Gas Pipeline Path	Interconnects with Northwest at the Idaho-Nevada border to the California-Nevada border
Gas Supply Basin (not owned by Paiute)	British Columbia, San Juan & Rocky Mtn.
NV Energy Contracting Utility	Sierra Pacific Power Company
Number of Gas Transport Agreements with NV Energy	1 transportation, 2 storage
NV Energy Generation Stations Directly Connected to Paiute	Fort Churchill, Tracy Units 3-5, Clark Mountain Peakers 3 and 4
Pipeline Interconnections	Northwest Pipeline, Ruby
Termination Dates of Gas Transport Agreements	2019 – 2020 (depends on agreement)
Total Contractual Capacity (million British Thermal Units per day)	Summer 68,696, Winter 61,044
ESTIMATED Dollars Remaining (Total Daily Contractual Amounts 2023 - Terms)	\$17.5 m

Assumes Paiute contracts will be renewed for one term in 2019. Paiute contracts must continue to be renewed to serve the LDC after 2023.

#### **Tuscarora Gas Transmission**



Description	Detail
Owner	TC Pipelines, LP
Entire Gas Pipeline Path	Alberta, Alberta/British Columbia border, BC system, Gas Transmission Northwest near Malin, Oregon
Gas Supply Basin (not owned by Tuscarora)	Alberta, Western Canada, Rockies
NV Energy Contracting Utility	Sierra Pacific Power Company
Number of Gas Transport Agreements with NV Energy	6
NV Energy Generation Stations Directly Connected to Tuscarora	Tracy Units 8-10, Tracy Units 3-5, Clark Mountain Peakers 3 and 4
Pipeline Interconnections	GTN, Ruby, Paiute
Termination Dates of Gas Transport Agreements	2018 – 2030 (depends on agreement)
Total Contractual Capacity (million British Thermal Units per day)	Summer 172,823, Winter 172,823
ESTIMATED Dollars Remaining (Total Daily Contractual Amounts 2023 - Terms)	Nominal \$45.7 m

Assumes Tuscarora contracts will be renewed for one term in 2020. Tuscarora contracts must continue to be renewed to serve the LDC after 2023.

#### **Kern River Gas Transmission**



Description	Detail
Owner	Kern River Gas Transmission Company
Entire Gas Pipeline Path	Opal, Wyoming to Southern California
Gas Supply Basin (not owned by Kern River)	Opal, Wyoming
NV Energy Contracting Utility	Nevada Power Company
Number of Gas Transport Agreements with NV Energy	7 + 2 SWG
NV Energy Generation Stations Directly Connected to Kern River	Lenzie, Silverhawk, Harry Allen, Higgins (no other Pipeline interconnection)
NV Energy Generation Stations Connected to Kern River (by way of Southwest Gas)	Las Vegas, Clark, SunPeak (no other Pipeline interconnections)
Termination Dates of Gas Transport Agreements	2018 – 2032 (depends on agreement)
Total Contractual Capacity (million British Thermal Units per day)	Summer 558,925, Winter 521,425
ESTIMATED Dollars Remaining (Total Daily Contractual Amounts 2023 - Terms)	Nominal \$468.1 m

Includes renewal of two contracts that expire in 2018