

**FINAL APPLICATION FOR LICENSE
OF MAJOR UNCONSTRUCTED PROJECT**

**Exhibit B
Operation Spreadsheets**

**LAKE ELSINORE
ADVANCED PUMPED STORAGE PROJECT
FEDERAL ENERGY REGULATORY COMMISSION
PROJECT NUMBER 14227**

Applicant:

THE NEVADA HYDRO COMPANY, INC.

2416 Cades Way
Vista, California 92081
(760) 599-1813
(760) 599-1815 FAX

September 2017

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Estimated Weekly Cycle for TOU Operation
 Assuming full reservoir starting at 0600 Monday morning
 Head Loss Coefficient = 4.1E-06
 (18' dia. penstocks)

Total Weekly Generation = 22419 MWh
 Total Weekly Power Consumption = 27286 MWh
 Turnaround Efficiency = 82.2%

Day	Time	Beginning Morrell Elev. (ft)	Lake Elsinore Elevation (ft)	Beginning Gross Head (ft)	Turbine Flow/Unit (cfs)	Pump Flow/Unit (cfs)	Head Loss in Penstock (ft)	Turbine Net Head (ft)	Pump/Turbine Efficiency (%)	Turbine Output (MW)	Pump Input Power (MW)	Generator Efficiency (%)	Transformer Eff (%)	Output per Unit (MW)	Input per Unit (MW)	Units in Operation	Plant Output (MW)	Plant Input (MW)	Beginning Storage (ft^3)	Ending Storage (ft^3)	Ending Morrell Elev. (ft)	
Saturday	1:00	2821.4	1245.0	1576.4		1915	15.15		93.13		276.1	98.7	99.6		280.9	2			561.8	59,761,051	73,547,507	2827.4
Saturday	2:00	2827.4	1245.0	1582.4		1900	14.91		93.12		275.0	98.7	99.6		279.7	2			559.5	73,547,507	87,225,258	2833.3
Saturday	3:00	2833.3	1245.0	1588.3		1886	14.70		93.11		274.1	98.7	99.6		278.8	2			557.6	87,225,258	100,807,146	2838.6
Saturday	4:00	2838.6	1245.0	1593.6		1873	14.49		93.11		273.0	98.7	99.6		277.7	2			555.3	100,807,146	114,289,638	2843.3
Saturday	5:00	2843.3	1245.0	1598.3		1860	14.30		93.10		271.9	98.7	99.6		276.6	2			553.3	114,289,638	127,683,076	2847.3
Saturday	Sat. 6:00:	2847.3	1245.0	1602.3		1849	14.13		93.08		271.1	98.7	99.6		275.7	2			551.5	127,683,076	140,998,934	2850.9
Saturday	7:00	2850.9	1245.0	1605.9		1840	13.99		93.07		270.3	98.7	99.6		275.0	2			549.9	140,998,934	154,247,569	2854.3
Saturday	8:00	2854.3	1245.0	1609.3		1832	13.86		93.05		269.6	98.7	99.6		274.3	2			548.6	154,247,569	167,435,677	2857.6
Saturday	9:00	2857.6	1245.0	1612.6		1824	13.74		93.04		269.0	98.7	99.6		273.6	2			547.3	167,435,677	180,564,939	2861.1
Saturday	10:00	2861.1	1245.0	1616.1		1815	13.61		93.03		268.4	98.7	99.6		273.0	2			546.0	180,564,939	193,633,555	2864.7
Saturday	11:00	2864.7	1245.0	1619.7		1807	13.49		93.02		267.8	98.7	99.6		272.4	2			544.7	193,633,555	206,643,464	2868.3
Saturday	12:00	2868.3	1245.0	1623.3		1799	13.37		93.01		267.1	98.7	99.6		271.7	2			543.5	206,643,464	219,594,154	2871.9
Saturday	13:00	2871.9	1245.0	1626.9		1790	13.24		93.01		266.4	98.7	99.6		271.0	2			541.9	219,594,154	232,480,929	2875.3
Saturday	14:00	2875.3	1245.0	1630.3		1781	13.10		93.01		265.5	98.7	99.6		270.1	2			540.2	232,480,929	245,300,864	2878.7
Saturday	15:00	2878.7	1245.0	1633.7		1771	12.96		93.00		264.7	98.7	99.6		269.2	0.81			218.1	245,300,864	250,465,894	2880.0
Saturday	16:00	2880.0	1245.0	1635.0		1768	12.91		92.99		264.3	98.7	99.6		268.9	0			0.0	250,465,894	250,465,894	2880.0
Saturday	17:00	2880.0	1245.0	1635.0		1768	12.91		92.99		264.3	98.7	99.6		268.9	0			0.0	250,465,894	250,465,894	2880.0
Saturday	18:00	2880.0	1245.0	1635.0		1768	12.91		92.99		264.3	98.7	99.6		268.9	0			0.0	250,465,894	250,465,894	2880.0
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Estimated Weekly Cycle for Emergency Operation

Total Weekly Generation = 8060 MWh
 Total Weekly Power Consumption = 0 MWh

Assuming full reservoir starting at 0600 Monday morning
 Head Loss Coefficient = 4.1E-06
 (18' dia. penstocks)

Day	Time	Beginning Morrell Elev. (ft)	Lake Elsinore Elevation (ft)	Beginning Gross Head (ft)	Turbine Flow/Unit (cfs)	Pump Flow/Unit (cfs)	Head Loss in Penstock (ft)	Turbine Net Head (ft)	Pump/Turbine Efficiency (%)	Turbine Output (MW)	Pump Input Power (MW)	Generator Efficiency (%)	Transformer Eff (%)	Output per Unit (MW)	Input per Unit (MW)	Units in Operation	Plant Output (MW)	Plant Input (MW)	Beginning Storage (ft^3)	Ending Storage (ft^3)	Ending Morrell Elev. (ft)
Monday	Mon. 6:00:00	2880.0	1245.0	1635.0	-1993		16.41	1618.6	93.28	253.8		98.5	99.6	249.0		2	498.0		250,470,000	236,120,617	2876.3
Monday	7:00	2876.3	1245.0	1631.3	-1998		16.50	1614.8	93.27	253.8		98.5	99.6	249.0		2	498.0		236,120,617	221,735,345	2872.4
Monday	8:00	2872.4	1245.0	1627.4	-2003		16.58	1610.9	93.26	253.8		98.5	99.6	249.0		2	498.0		221,735,345	207,312,679	2868.5
Monday	9:00	2868.5	1245.0	1623.5	-2008		16.67	1606.8	93.25	253.8		98.5	99.6	249.0		2	498.0		207,312,679	192,851,486	2864.5
Monday	10:00	2864.5	1245.0	1619.5	-2014		16.76	1602.8	93.23	253.8		98.5	99.6	249.0		2	498.0		192,851,486	178,351,021	2860.5
Monday	11:00	2860.5	1245.0	1615.5	-2019		16.85	1598.7	93.22	253.8		98.5	99.6	249.0		2	498.0		178,351,021	163,810,948	2856.7
Monday	12:00	2856.7	1245.0	1611.7	-2025		16.94	1594.7	93.20	253.8		98.5	99.6	249.0		2	498.0		163,810,948	149,232,500	2853.0
Monday	13:00	2853.0	1245.0	1608.0	-2030		17.03	1591.0	93.19	253.8		98.5	99.6	249.0		2	498.0		149,232,500	134,617,315	2849.2
Monday	14:00	2849.2	1245.0	1604.2	-2035		17.12	1587.1	93.17	253.8		98.5	99.6	249.0		2	498.0		134,617,315	119,964,180	2845.1
Monday	15:00	2845.1	1245.0	1600.1	-2041		17.21	1582.9	93.16	253.8		98.5	99.6	249.0		2	498.0		119,964,180	105,268,862	2840.3
Monday	16:00	2840.3	1245.0	1595.3	-2048		17.33	1577.9	93.14	253.8		98.5	99.6	249.0		2	498.0		105,268,862	90,523,942	2834.6
Monday	17:00	2834.6	1245.0	1589.6	-2056		17.47	1572.1	93.12	253.8		98.5	99.6	249.0		2	498.0		90,523,942	75,720,453	2828.4
Monday	18:00	2828.4	1245.0	1583.4	-2065		17.62	1565.8	93.09	253.8		98.5	99.6	249.0		2	498.0		75,720,453	60,851,698	2821.9
Monday	19:00	2821.9	1245.0	1576.9	-2075		17.79	1559.1	93.06	253.8		98.5	99.6	249.0		2	498.0		60,851,698	45,913,401	2816.8
Monday	20:00	2816.8	1245.0	1571.8	-2082		17.92	1553.9	93.04	253.8		98.5	99.6	249.0		2	498.0		45,913,401	30,920,585	2813.4
Monday	21:00	2813.4	1245.0	1568.4	-2088		18.01	1550.4	93.02	253.8		98.5	99.6	249.0		2	498.0		30,920,585	15,890,059	2803.3
Monday	22:00	2803.3	1245.0	1558.3	-2103		18.28	1540.1	92.97	253.8		98.5	99.6	249.0		0.37	92.1		15,890,059	13,088,613	2800.0
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Estimated Weekly Cycle for Maximum MWHs

Total Weekly Generation = 29867 MWh

Total Weekly Power Consumption = 36331 MWh

Turnaround Efficiency = 82.2%

Assuming full reservoir starting at 0600 Monday morning

Head Loss Coefficient = 4.1E-06

(18' dia. penstocks)

Day	Time	Beginning Morrell Elev. (ft)	Lake Elsinore Elevation (ft)	Beginning Gross Head (ft)	Turbine Flow/Unit (cfs)	Pump Flow/Unit (cfs)	Head Loss in Penstock (ft)	Turbine Net Head (ft)	Pump/Turbine Efficiency (%)	Turbine Output (MW)	Pump Input Power (MW)	Generator Efficiency (%)	Transformer Eff (%)	Output per Unit (MW)	Input per Unit (MW)	Units in Operation	Plant Output (MW)	Plant Input (MW)	Beginning Storage (ft^3)	Ending Storage (ft^3)	Ending Morrell Elev. (ft)	
Saturday	1:00	2841.9	1245.0	1596.9		1864	14.36		93.10		272.2	98.7	99.6		276.9	2			553.9	109,954,057	123,374,765	2846.1
Saturday	2:00	2846.1	1245.0	1601.1		1853	14.18		93.09		271.3	98.7	99.6		276.0	2			552.0	123,374,765	136,714,445	2849.8
Saturday	3:00	2849.8	1245.0	1604.8		1843	14.04		93.07		270.5	98.7	99.6		275.2	2			550.4	136,714,445	149,983,722	2853.2
Saturday	4:00	2853.2	1245.0	1608.2		1834	13.90		93.06		269.8	98.7	99.6		274.5	2			549.0	149,983,722	163,190,948	2856.5
Saturday	5:00	2856.5	1245.0	1611.5		1826	13.78		93.04		269.2	98.7	99.6		273.9	2			547.7	163,190,948	176,339,252	2860.0
Saturday	Sat. 6:00:	2860.0	1245.0	1615.0		1818	13.65		93.03		268.6	98.7	99.6		273.2	2			546.4	176,339,252	189,427,514	2863.6
Saturday	7:00	2863.6	1245.0	1618.6		1810	13.53		93.02		267.9	98.7	99.6		272.6	2			545.1	189,427,514	202,456,161	2867.2
Saturday	8:00	2867.2	1245.0	1622.2		1801	13.41		93.01		267.3	98.7	99.6		271.9	2			543.9	202,456,161	215,426,299	2870.7
Saturday	9:00	2870.7	1245.0	1625.7		1793	13.28		93.01		266.6	98.7	99.6		271.2	2			542.4	215,426,299	228,334,184	2874.2
Saturday	10:00	2874.2	1245.0	1629.2		1784	13.14		93.01		265.8	98.7	99.6		270.4	2			540.8	228,334,184	241,175,785	2877.6
Saturday	11:00	2877.6	1245.0	1632.6		1774	13.01		93.00		264.9	98.7	99.6		269.5	1.46			393.5	241,175,785	250,501,185	2880.0
Saturday	12:00	2880.0	1245.0	1635.0		1768	12.91		92.99		264.3	98.7	99.6		268.9	0			0.0	250,501,185	250,501,185	2880.0
Saturday	13:00	2880.0	1245.0	1635.0		1768	12.91		92.99		264.3	98.7	99.6		268.9	0			0.0	250,501,185	250,501,185	2880.0
Saturday	14:00	2880.0	1245.0	1635.0		1768	12.91		92.99		264.3	98.7	99.6		268.9	0			0.0	250,501,185	250,501,185	2880.0
Saturday	15:00	2880.0	1245.0	1635.0		1768	12.91		92.99		264.3	98.7	99.6		268.9	0			0.0	250,501,185	250,501,185	2880.0
Saturday	16:00	2880.0	1245.0	1635.0		1768	12.91		92.99		264.3	98.7	99.6		268.9	0			0.0	250,501,185	250,501,185	2880.0
Saturday	17:00	2880.0	1245.0	1635.0		1768	12.91		92.99		264.3	98.7	99.6		268.9	0			0.0	250,501,185	250,501,185	2880.0
Saturday	18:00	2880.0	1245.0	1635.0		1768	12.91		92.99		264.3	98.7	99.6		268.9	0			0.0	250,501,185	250,501,185	2880.0
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