

City of Roseville **Public Utilities Commission Meeting** March 23, 2010 7:00 pm

AGENDA

Council Chambers 311 Vernon Street Roseville, CA 95678

- 1. Roll Call
- 2. Pledge of Allegiance
- 3. Approval of the February 23, 2010 Minutes
- 4. Oral Communications/Public Comment

5. New Business

- a. <u>Video Service Franchise Status Report</u> Report by Deputy City Manager Julia Burrows on the status of the Comcast, SureWest, and AT&T video service franchises, for information.
- <u>Environmental Utilities Monthly Update</u> Report by Water Utility Manager Ed Kriz summarizing monthly status of Environmental Utilities issues, for information.
- c. <u>Environmental Utilities Annual Water Supply Projections</u> Presentation by Water Utility Manager Ed Kriz on the Annual Water Supply Projections, for information.
- <u>Roseville Electric Monthly Update</u> Report by Interim Electric Utility Director George Fraser summarizing monthly status of Roseville Electric issues, for information.
- e. <u>Roseville Electric Nexant Study Recommendations</u> Presentation by Assistant Electric Utility Director/Power Supply, Tom Green on the status of the Nexant Study Recommendations for the Roseville Energy Park, for information.
- f. <u>Utility Operations: Prop 16 and Investor Owned Utilities/Municipalities</u> Presentation by Interim Electric Utility Director George Fraser on Proposition 16 and Organization of Investor Owned Utilities (IOU) and Municipalities, for information.

6. Reports - Commission/Staff

7. Adjournment

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MINUTES Public Utilities Commission February 23, 2010 7:00 p.m.

Council Chambers 311 Vernon Street Roseville, CA 95678

1. Roll Call

PUC Commissioners Present:

Tom Barrington Jim Hardy Joe McCaslin John Raudabaugh Susan Rohan Bruce Scheidt Jim Viele

None

PUC Commissioners Absent:

Staff Present:

Derrick Whitehead, Environmental Utilities Director George Fraser, Interim Electric Utility Director Russ Branson, Admin Services Director/City Treasurer Michelle Bertolino, Electric Assistant Director, Admin & Retail Services Tom Green, Electric Assistant Director, Power Supply Ed Kriz, Water Utility Manager Carol Margetich, EU Business Services Administrator Dave Brown, Electric Assistant Director, Distribution Vonette McCauley, Electric Public Relations Manager Joseph Mandell, Deputy City Attorney

2. Pledge of Allegiance

3. Minutes of November 19, 2009

The minutes of November 19, 2009 were approved as submitted.

Commissioner Scheidt abstained from the minutes of November 19, 2009 due to his absence from the meeting.

4. Oral Comments/Public Comment

None.

5. New Business

a. PG&E Ballot Initiative Update

Presentation by Deputy City Attorney Joe Mandell, Interim Electric Director George Fraser and Assistant Electric Director Michelle Bertolino on the proposed Two-Thirds Requirement for Local Public Electricity Providers, for information.

Commissioner Rohan inquired whether a franchise agreement was necessary when new areas are annexed into the City or if the City would automatically be the provider. Staff responded they would have to research this and report back to the Commission.

Commissioner Rohan suggested Roseville Electric make entities such as the Roseville school districts aware of the potential impacts as they add schools in the newly annexed areas.

Commissioner Rohan suggested Roseville Electric meet with their large customers to find out if they have perspectives that might better inform the City of the overall impact.

b. Roseville Electric Monthly Update

Report by Interim Electric Utility Director George Fraser summarizing monthly status of Roseville Electric issues, for information.

Chairperson Hardy expressed his thanks to Vonette McCauley for providing updates on outages.

 <u>Environmental Utilities Monthly Update</u> Report by Environmental Utilities Director Derrick Whitehead summarizing monthly status of Environmental Utilities issues, for information.

d. <u>Environmental Utilities Budget Process Overview</u> Presentation by Environmental Utilities Director Derrick Whitehead and Admin Services

Director/City Treasurer Russ Branson on the Environmental Utilities and City Budget Process, for information.

Commissioner Viele requested additional information on infrastructure funding for Water, Wastewater and Solid Waste Utilities. Derrick Whitehead responded staff will provide an overview of EU's Rehabilitation Program at a future meeting.

e. New Monthly Agenda Item

Discussion of proposed monthly agenda item titled "Utility Operations", for recommendation.

Derrick Whitehead requested the Commission consider adding a standing informational agenda item called Utility Operations with the purpose of educating the Commission as well as the public on the operations of the utilities, including Video Service.

Commissioner Barrington supported the idea and asked that staff be careful not to overload the agendas and to skip the Utility Operations item if there are too many other items needing to be addressed.

Commissioner Scheidt would like to see a two-month review process on rate adjustments.

MOTION: Commissioner Scheidt made the motion, which was seconded by Commissioner Hardy, to include a new standing informational agenda item called Utility Operations on future agendas and eliminate item 7. Future Agenda Items from the agenda.

Ayes:Barrington, Hardy, McCaslin, Raudabaugh, Rohan, Scheidt, VieleNoes:NoneAbsent:None

Derrick Whitehead recommended the Commissioners email staff with topic suggestions for the new Utility Operations agenda item.

f. <u>Appointment to Sustainability Action Committee</u> Commissioners to appoint a Public Utilities Commissioner to the Sustainability Action Committee, for recommendation.

The Commission appointed Commissioner Viele to the Sustainability Action Committee. Commissioner McCaslin was appointed the alternate.

6. Reports - Commission/Staff

Commissioner Viele commented that meetings with Electric and EU staff designed to bring him up to speed have been helpful in understanding the complex issues and dynamic environment of the utilities.

7. Proposed Future Agenda Items

None

8. Adjournment

Commissioner Scheidt moved for adjournment of the February 23, 2010 Public Utilities Commission meeting. Commissioner Rohan seconded the motion. The motion passed unanimously at 9:03 p.m.

Jim Hardy Chairperson

Karen Sainsbury Recording Secretary



STAFF REPORT

TO: Roseville Public Utilities Commission

DATE: March 10, 2010

SUBJECT: Nexant Recommendations Status Update

CONTACT: Tom Green, Asst. Electric Utility Director – Power Supply, 774-5619

PUC Meeting Date: March 23, 2010

BACKGROUND

In May 2009, the City hired Nexant, Inc. ("Nexant") to provide consulting services related to maximizing the value of the Roseville Energy Park (REP). The scope of work for the study conducted by Nexant listed three major tasks and sought associated recommendations for improvement:

- <u>REP Market Optimization</u>: Assess how the REP is being bid into the energy market, what opportunities exist, and whether the plant is bringing optimal value.
- <u>Operation and Maintenance Assessment</u>: Benchmark operations and maintenance of the REP against power plants of similar design, vintage and operational characteristics.
- <u>REP Plant Utilization</u>: Evaluate asset optimization and plant availability to assess performance in relation to design objectives.

Nexant completed the study in September 2009 and presented their findings and recommendations at the October 7, 2009 City Council meeting and the October 27, 2009 Roseville Public Utilities Commission meeting.

DISCUSSION

The following summarizes Nexant's recommendations and describes the status of Roseville Electric plans and actions in response to the recommendations.

1. <u>Implement a Formal Market Opportunity Assessment Process</u> Implement a process to organize, support and document the evaluation, analysis and decisions regarding potential power market opportunities.

<u>Status</u>

The Nexant report recommended that Roseville develop a formal power market opportunity assessment process. At that time, they also provided a suggested template and a process for use in tracking these market assessments. Staff has developed a database based on this template to track market opportunities. This process, now employed by Roseville Electric, provides an organized means to categorize a potential market opportunity, and then

discusses the business case in terms of benefit, cost, and risk for each potential market strategy decision.

2. <u>Refine and Develop Market Performance Metrics</u>

Develop a methodology and rational for the appropriate performance metrics and then implement the data acquisition, processing and reporting methods to consistently track and deliver the metrics.

<u>Status</u>

RE staff has implemented a daily and monthly process to report performance of the REP within the overall resource portfolio of the electric system. Roseville Electric regularly reviews and refines these reports as necessary. Roseville Electric captures the following key performance indicators ("KPI") associated with the REP on a daily basis.

- a. <u>REP Day-Ahead Market Savings</u>. Reports the value the REP brings vs. the California Independent System Operator's (CAISO) day-ahead electricity market, i.e. wholesale electricity we would have had to purchase if we did not have the plant.
- b. <u>REP Hour-Ahead Purchases</u>. Reports the benefit derived from the ability to reduce the REP generation in real-time and buy cheaper alternative electricity from the CAISO's hour-ahead market. These transactions are possible because the REP generation can be reduced on a moments notice to take advantage of the volatile intra-day prices in CAISO electricity market.
- c. <u>Bilateral Hour-Ahead Purchases</u>. Similar to "b", above, reports the benefit derived from the ability to reduce the REP generation in real-time and buy cheaper alternative electricity from non-CAISO sellers.
- d. <u>*REP Sales.*</u> Reports the value of realized day ahead or hour-ahead sales to the local grid and/or CAISO electricity markets.
- e. <u>REP Arbitrage</u>. Reports the net benefit of real-time simultaneous transactions that can occur because of the flexibility of the REP.
- f. <u>*Trip/Missed Ramp Costs*</u>. Reports the cost incurred when the REP trips offline, or is unable to meet a dispatch target.
- g. <u>REP Spinning reserve self-provision savings</u>. Reports the benefit derived from using the REP to meet Roseville's ancillary service requirement per Nexant recommendation No. 5.

In addition to the daily KPI's, Staff also tracks the following KPI's on a monthly basis.

a. <u>Short-Run Capacity Value</u>. Reports the value of having REP capacity in place to meet load. The value derives from the capability to generate electricity on demand and is critical to avoiding blackouts. On a short-run basis, the electricity markets currently value capacity of the type the REP provides at \$3.50/KW-month. This works out to about \$560,000 per month for the REP.

- b. <u>Shaping Value</u>. Reports the value the REP provides by its ability to generate electricity at various rates of delivery, not just market standard constant rates of delivery. This ability provides about \$100,000/Month in value.
- c. <u>Insurance Value</u>. Reports the value that the REP provides as insurance against the effect of scarcity of generating capacity in the region. Short-run capacity values are insufficient to ensure the industry builds power plants. In the long run, a shortage of generation, leads to market price spikes. These price spikes can occur without sufficient warning to initiate construction of new power plants. The REP is an insurance policy against that outcome. For example, if there is another electricity market spike, as did occur in 2000-2001, in the next twenty-five years, the REP will save about \$109 million in that year of occurrence, alone. Amortized monthly over twenty-five years, the value equals about \$360,000 per month. This value varies as a function of supply and demand; however, this calculation represents the long-run value of power plants in the electricity market place.

In addition to the base KPI data, the monthly report also provides supporting data to ensure the KPI data is consistent. Some of this data includes.

- a. <u>Daily market prices for both electricity and natural gas</u>. Reports the daily movement of energy commodity prices.
- b. <u>A chart of resources delivered to Roseville load</u>. Shows the generation pattern of the REP, including forced outages; the extent of alternative market purchases; and electricity from other sources such as Western Area Power Administration ("Western") or Northern California Power Agency ("NCPA").
- c. <u>A daily comparison of the Market heat rate to the REP heat rate</u>. Provides insight on the comparative efficiency of the REP and whether it would be cheaper to buy from the electricity market on a given day.
- d. <u>Cost vs. value of energy generated from Roseville resources operating in the CAISO</u> <u>including NCPA Projects</u>. This indicates the extent that these resources were operated economically.
- e. <u>The financial performance of our hedge transactions</u>. Provides a measure of the transaction value in comparison to the current market.

Sample daily and monthly position reports are attached for reference.

3. <u>Improve the Daily Reporting Process</u> Establish a process for consistent publishing of the "Daily Position Report" each work day.

Status

Daily Position Reports are now prepared daily with key performance indicators reported per Recommendation 2, above.

4. <u>Daily Comparison of Actual versus Expected Fuel Use</u> Acquire a software application to calculate an expected heat rate, i.e., efficiency based on operational state and corrected ambient conditions. Then develop a formal process to review actual heat rate performance and periodically update the heat rate curve used for unit commitment and dispatch.

<u>Status</u>

Staff has reviewed various options for implementing a plant heat rate monitoring system. A proposal has been developed for the purchase of such a package. Staff anticipates this proposal will go to Council for action in April 2010. In the meantime, Roseville Electric staff has been monitoring monthly natural gas flow to validate the plant's calculated heat rate. To date staff calculates a heat rate error of about 1% in months where there are no forced outages, and about 2.5% in months with forced outages.

5. Examine the Cost Effectiveness of Self Providing Reserves

Use the Market Opportunity Assessment process to evaluate the opportunity to self-provide ancillary services instead of procuring exclusively from Western. If economically feasible, incorporate into the daily commitment and dispatch model.

<u>Status</u>

In order to ensure reliable delivery of electricity to customers, there are contingency capabilities in place. Contingencies could include an unexpected increase in load or an outage to a power plant or the transmission system. To prevent blackouts when these contingencies occur, extra generation is held in reserve. Some of this generation is synchronized to the grid, unloaded, yet spinning, ready to serve load instantly, like a car idling at a stop light ready to accelerate. This is called spinning reserve. When Nexant made their study, they noted there was an opportunity to save money by providing spinning reserves from the REP as opposed to purchasing them from Western. Staff has implemented this recommendation. Each day ACES Power Marketing (APM) staff compares the amount of money the plant can save by generating energy vs. unloading the REP capacity to create spinning reserve capability. They then use the plant in its most valuable configuration. Some days we purchase spinning reserves, generate more from the REP, and purchase less electricity from the market. Other days we purchase more electricity from the market and generate a little less from the REP in order to self-supply spinning reserves. It is an economic decision. The REP has provided cumulatively about 12,000 MW-hours of spinning reserve capacity at an avoided cost of about \$37,000 from August 2009 through February 2010.

6. Develop a Short and Long Term Staffing and Coverage Plan

REP staffing is lower than its peer power plants and shift coverage is also lower than at plants similar to the REP that also have a ZLD system. For that reason an updated staffing and coverage plan should be developed that takes into consideration industry best practice, and risk mitigation needs for the physical plant and the potential exposure to increased costs of replacement power should the plant be forced out of service due to a preventable outage.

<u>Status</u>

We have reviewed the staffing needs to safely and efficiently operate the Roseville Energy Park (REP) and the Roseville Combustion Turbines (RCT's) that will soon be acquired from NCPA. The source of Information utilized in the review included:

 The Nexant report itself that benchmarked staffing levels of the REP against similar plants.

- A review of the work requirements for both the REP and the RCT sites,
- A review of overtime versus full time equivalent personnel ("FTE") versus contract labor.
- A comparison of NCPA staffing for the RCT's,
- An assessment of REP staffing needs by Sterling Energy, a consulting firm with much expertise in power plant operations and maintenance (see attached.)

The review led to staffing proposals for short and long-term plans. In the short-term, we determined an immediate need exists to staff the operations at three operators per shift. This required resources to cover an additional 2,184 hours annually. We are currently meeting the requirement with overtime while staff prepares a contract labor agreement that we expect to submit to Council for approval in May. Costs for the short-term plan were approved in the City's mid-year budget. The long-term plan includes a proposal to increase staffing in key areas along with use of contract labor for operations and maintenance. This proposal is included in the FY 11 budget request for Roseville Electric's Power Supply Division.

7. Implement Plant Availability Improvement Program

Plant availability is relatively high, but there is room for further improvement as the plant matures and sources of forced and scheduled outages are identified. Establish a formal plant outage identification system that 1) documents each event that leads to unavailability over a threshold level, 2) includes root cause determination and documentation, 3) includes plans to address the identified root cause, 4) includes a tracking system to ensure that plans are completed and 4) requires a management signoff when each item is completed.

Status

The Nexant recommendation was reviewed and while staff agrees with this recommendation, staff does not currently have the resources to implement this program. Assuming the staffing proposals contained in the FY11 Budget are accepted, staff will implement a plant availability program, as recommended, in the second quarter of FY11.

8. Implement Plant Heat Rate Monitoring System

Implement a real time system that calculates an expected heat rate that is based upon the real time ambient conditions and mode of operation, and compares this expected heat rate with the actual measured heat rate.

<u>Status</u>

Staff has reviewed various options for implementing a plant heat rate monitoring system. A proposal has been developed for the purchase of such a package. Staff anticipates this proposal will go to Council for action in April 2010.

9. Implement Periodic Review of Cost/Benefits of Plant Improvements

Implement a process for identifying potential plant improvements that would be beneficial to market operations and to analyze the costs and benefits of such improvements. For those judged cost effective, develop plans for implementing changes.

<u>Status</u>

The Nexant recommendation was reviewed and while staff agrees with this recommendation, staff does not currently have the resources to implement this program. Assuming the staffing proposals are accepted, staff will implement a plant availability program in the second quarter of FY11.

10. <u>Develop and Use an Analytical Framework to Analyze the Cost Effectiveness of Potential</u> <u>Options to Improve ZLD Performance</u>

Examine the direct costs of Zero Liquid Discharge ("ZLD") operation and their impact on the costs to the remainder of the RE portfolio for a set of alternatives for improving ZLD performance over the potential life of each alternative in order to determine which improvements would be cost effective and which alternative should be implemented.

<u>Status</u>

Roseville Electric staff working together with Environmental Utilities staff began working on this plan months ahead of the Nexant recommendation. Staff has been working through this plan. Staff utilized a ZLD industry expert to review the ZLD at the REP. It was determined that the system is undersized. The team brainstormed multiple ideas to resolve the issues. These ideas were reviewed by the consulting ZLD expert. A report was produced with a narrowed list including a recommendation to perform a detailed feasibility study on the remaining options. Upon further evaluation, we reduced this list to a single concept involving deep well injection. Deep well injection would entail partially or completely bypassing the ZLD system and injecting REP wastewater into deep wells set below impermeable rock such that it would be isolated from any effect on subsurface water. Staff expects completion of a feasibility study on deep well injection by mid-May 2010 after which we will report results to the RPUC.

Daily Position Report

Roseville Electric - Wholesale Division Report for Flow Date: Saturday, February 27, 2010 Version 4.0



	<u>DA P</u>	rices	REP Operations
DA Index HLH	\$ 53.06	(includes \$8.28 for transmission)	
DA Index LLH	\$ 44.25	(includes \$8.28 for transmission)	
REP Base Cost	\$ 46.52	(includes LTSA costs)	Forond Outogoo/Dorotoo: nono
REP Duct Cost	\$ 54.97	(includes LTSA costs)	<u>Forced Outages/Derates</u> . Hone.
PG&E Citygate	\$ 5.32	(includes \$0.18 for transmission)	
Gas Nominated	Net MMBTU		

Natural Gas Physical Transactions

FlowDate	MMBTU	Price	TotalDollars	BuySell	Product	CP
2/27/2010	13500	\$ 5.22	\$ 70,470	Buy	NG	Shell
2/27/2010	5000	\$ 5.05	\$ 25,250	Buy	NG	RNGFA

Load and REP Generation Totals

		Max (MW)	Total (MWh)
	Flow Date	150	2,998
Load	Month to Date	173	99,241
	Year to Date	325	872,885
	Flow Date	129	2,548
REP	Month to Date	151	65,774
	Year to Date	165	547,808

REP % of Peak Daily Load
82%
REP % Off Peak Daily Load
93%

Load Balancing Transactions

HA and DA Purchases (for load)								
Flow Date	HE	MW	Pr	ice (Avg)	Α	mount		
2/27/2010	1	_	\$	-	\$	-		
2/27/2010	2	-	\$	-	\$	-		
2/27/2010	3	2	\$	29.99	\$	60		
2/27/2010	4	2	\$	31.36	\$	63		
2/27/2010	5	2	\$	32.00	\$	64		
2/27/2010	6	-	\$	-	\$	-		
2/27/2010	7	25	\$	46.14	\$	1,154		
2/27/2010	8	25	\$	46.14	\$	1,154		
2/27/2010	9	25	\$	46.14	\$	1,154		
2/27/2010	10	25	\$	46.14	\$	1,154		
2/27/2010	11	25	\$	46.14	\$	1,154		
2/27/2010	12	30	\$	44.28	\$	1,329		
2/27/2010	13	30	\$	44.62	\$	1,339		
2/27/2010	14	25	\$	46.14	\$	1,154		
2/27/2010	15	30	\$	44.28	\$	1,329		
2/27/2010	16	30	\$	44.28	\$	1,329		
2/27/2010	17	30	\$	44.28	\$	1,329		
2/27/2010	18	30	\$	44.28	\$	1,329		
2/27/2010	19	25	\$	46.14	\$	1,154		
2/27/2010	20	43	\$	47.29	\$	2,034		
2/27/2010	21	31	\$	46.52	\$	1,442		
2/27/2010	22	25	\$	46.14	\$	1,154		
2/27/2010	23	21	\$	43.07	\$	905		
2/27/2010	24	40	\$	48.00	\$	1,920		
				Total:	9	\$23,696		

CAISO Ex	<port< th=""><th>Price</th><th colspan="4">CAISO Import Price</th></port<>	Price	CAISO Import Price			
DA	HA		DA		HA	
\$ 46.19	\$	44.84	\$	38.95	\$	37.66
\$ 43.43	\$	44.57	\$	36.21	\$	37.41
\$ 41.20	\$	42.85	\$	34.00	\$	35.72
\$ 40.91	\$	42.94	\$	33.72	\$	35.82
\$ 42.31	\$	42.91	\$	35.12	\$	35.80
\$ 46.10	\$	43.19	\$	38.86	\$	36.07
\$ 44.11	\$	42.76	\$	36.73	\$	35.59
\$ 46.36	\$	45.29	\$	38.87	\$	38.02
\$ 49.55	\$	46.79	\$	42.02	\$	39.48
\$ 50.62	\$	50.45	\$	43.10	\$	43.06
\$ 50.94	\$	51.91	\$	43.42	\$	44.52
\$ 50.90	\$	56.21	\$	43.40	\$	48.75
\$ 49.64	\$	53.94	\$	42.12	\$	46.38
\$ 49.06	\$	46.81	\$	41.54	\$	39.46
\$ 49.04	\$	45.36	\$	41.48	\$	38.02
\$ 48.87	\$	48.87	\$	41.37	\$	41.37
\$ 48.83	\$	48.83	\$	41.37	\$	41.37
\$ 49.93	\$	48.36	\$	42.51	\$	41.01
\$ 54.97	\$	59.54	\$	47.38	\$	52.01
\$ 52.10	\$	51.62	\$	44.58	\$	44.27
\$ 50.09	\$	44.11	\$	42.68	\$	36.84
\$ 50.15	\$	43.69	\$	42.68	\$	36.38
\$ 48.44	\$	44.27	\$	41.08	\$	37.02
\$ 46.05	\$	42.57	\$	38.78	\$	35.36

CAISO Export = RSVL Import (Purchase) CAISO Import = RSVL Export (Sale)

HA and DA Sales								
Flow Date	HE	MW	Pri	ice (Avg)	Ar	nount		
2/27/2010	1	0	\$	-	\$	-		
2/27/2010	2	0	\$	-	\$	-		
2/27/2010	3	0	\$	-	\$	-		
2/27/2010	4	0	\$	-	\$	-		
2/27/2010	5	0	\$	-	\$	-		
2/27/2010	6	0	\$	-	\$	-		
2/27/2010	7	0	\$	-	\$	-		
2/27/2010	8	0	\$	-	\$	-		
2/27/2010	9	0	\$	-	\$	-		
2/27/2010	10	0	\$	-	\$	-		
2/27/2010	11	10	\$	40.50	\$	405		
2/27/2010	12	8	\$	44.73	\$	358		
2/27/2010	13	5	\$	42.36	\$	212		
2/27/2010	14	0	\$	-	\$	-		
2/27/2010	15	0	\$	-	\$	-		
2/27/2010	16	0	\$	-	\$	-		
2/27/2010	17	0	\$	-	\$	-		
2/27/2010	18	0	\$	-	\$	-		
2/27/2010	19	0	\$	-	\$	-		
2/27/2010	20	0	\$	-	\$	-		
2/27/2010	21	0	\$	-	\$	-		
2/27/2010	22	0	\$	-	\$	-		
2/27/2010	23	0	\$	-	\$	-		
2/27/2010	24	0	\$	-	\$	-		
				Total:		\$975		

HE	Net Purch
1	-
2	-
3	2
4	2
5	2
6	-
7	25
8	25
9	25
10	25
11	15
12	22
13	25
14	25
15	30
16	30
17	30
18	30
19	25
20	43
21	31
22	25
23	21
24	40

*Prices include CAISO WAC, WAPA Losses, and all buffers/adders (where applicable)





Portfolio Savings Report



Savings Type	S	avings	Financial Comments
REP DA Savings (no LTSA)	\$	14,582	REP savings against the CAISO DA Market (Variable Costs/Savings Only)
REP CAISO Sales	\$	975	Savings between sales price and REP cost
REP Arbitrage	\$	-	REP sold DA, purchased back in HA. We capture the spread without having to run the plant.
REP Load Following	\$	-	Staff is working to calculate this
Trip/Missed Ramp Costs	\$	-	\$
Bilateral Purchases	\$	1,840	SMUD purchases against the CAISO Market
REP Bilateral Sales	\$	-	Savings between sales price and REP cost
CAISO HA Purchases	\$	21	CAISO HA Purchases against the CAISO DA Market
REP Subtotal	\$	17,417	Subtotal of REP savings to the porfolio
Untangled Light Savings	\$	-	NCPA Untangled Lite Swaps
WDIS Savings	\$	-	Western Displacement Savings (0 MWh); less water available for displacement
Deviation Penalties	\$	-	Deviated 0 MWh
Subtotal	\$	-	
Total Portfolio Savings (Cash)	\$	17,417	Sum of all portfolio operations
Accrued LTSA Costs	\$	(14,160)	Accrued LTSA hours
Total Portfolio Savings (Net)	\$	3,257	Sum of all portfolio operations with accrued LTSA costs

Other Comments					
REP Operations	No trips today. The plant was brought offline in the last hour of the day for economics and will be off for a few days (pending market movement).				

Notes

Monthly Position Report Roseville Electric - Wholesale Division Report for Flow Month: February 2010 Version 2.0

Monthly REP Value								
Variable Value								
Gross Variable Value	\$	607,154						
LTSA Accrued	\$	(242,490)						
Net Variable Value	\$	364,664						
Capacity Value								
Gross Capacity Value	\$	961,536						
REP Fixed Budget	\$	(270,573)						
REP Debt Service	\$	(823,975)						
Net Capacity Value	\$	(133,012)						
Total Net Value	<u>\$</u>	231,653						

FT 10 REP	value	
Variable Value		
Gross Variable Value	\$	6,734,513
LTSA Accrued	\$	(2,986,580)
Net Variable Value	\$	3,747,933
Capacity Value		
Gross Capacity Value	\$	8,081,736
REP Fixed Budget	\$	(2,348,189)
REP Debt Service	\$	(7,150,924)
Net Capacity Value	\$	(1,417,377)
Total Net Value	<u>\$</u>	<u>2,330,556</u>

REP Value Definitions

Variable Value: The combination of REP hourly generation cost versus the equivalent market cost to procure (on a day-ahead basis); hourly flexiblity advantage (increasing or decreasing output to take advantage of low or high market prices); sales to market opportunities; spinning reserve self provision savings; and costs of deviation by not meeting load demand.

Capacity Value: The combined value of not having to purchase short-term capacity to meet extreme peak loads at the CAISO benchmark price of \$3.50/kW-month, plus the "Shaping Value" of not having to pay a premium to shape energy to more closely match load shape; plus the "Scarcity Value" derived from the value of insuring against insufficeint market generating capacity. The REP's fixed costs and debt service costs are deducted from this value.



Comments: As expected, the greatest savings from the REP occurred this summer (so far). Since the major driver of savings is the savings against the CAISO market, higher market prices means more REP savings. With cheap market alternatives for power (SMUD and TID), February's savings is toward the lower end, but better than January. This coming summer is expected to be a cool one again so we should expect simular savings in July and August (hopefully more like July, less like August). The CAISO again raised the Wheeling Access Charge, backdating to Jan. 1, 2010; the February report reflects the additional savings.

Resource Information



Resources to Load			Load and REP Generation Totals				
	MWh	% of Load	Load	Max (MW)	Total (MWh)		
Base Resource	315	0.4%	Month to Date	169	86,582		
RSVL CT's	-	0.0%	FY to Date	325	881,897		
Net Purchases	36,649	42.3%	REP				
Western Displacement	980	1.1%	Month to Date	152	48,839		
Untangled Lite	-	0.0%	FY to Date	165	547,808		
REP	48,839	56.4%					

<u>REP Gas Usage</u>	Monthly REP Portion of Load			
Expected Gas Usage (HR) MMBTUs	370,731	REP %	HLH	54%
Actual Gas Usage MMBTUs	379,662	REP %	LLH	61%
Difference	2.35%			
*larger error % due to starts and stops				

REP Avoided Spin Cost						
	Quantity	Am	ount Saved	Sav	ings Rate	
Month	1057 MWh	\$	3,011	\$	2.85	
Fiscal Year	12043 MWh	\$	37,226	\$	3.09	

Comments: The REP was offline for economic purposes from 2/1-2/2, 2/17-2/23, and 2/28. The savings during these periods is the variable value between our purchases (generally SMUD, TID, MID, etc.) and the CAISO day-ahead market. HLH = Heavy Load Hour (7:00am-9:59pm), a.k.a. "Peak Hours". LLH = Low Load Hour (10:00pm-6:59am), a.k.a. "Off Peak Hours". Sundays and NERC holidays (most Federal holidays) are considered LLH for all 24 hrs.

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Market Movement





Comments: All prices above are undelivered prices. For electricity (LLH or HLH) add approx. \$8.50. For gas add \$0.18. This will add the additional costs of transmission, ancillary services, etc. that are paid by RE when we purchase the energy for delivery to load. The NP-15 price chart above reflects daily average prices for the HLH and LLH periods. The maximum, minimum, and average values are based on the hourly prices.

50.92

36.84

\$

\$

56.77

40.76 \$

\$

Max

Avg

\$

\$

80.56 \$

\$

45.27

62.09

43.58 \$

\$

5.90

5.54

\$

\$

6.43

6.04

Variable Portfolio Savings Report



Comments: When the plant is offline the DA savings becomes the difference between the purchase price and the CAISO DA price. The DA price represents a forward fixed price that we would have purchased to meet our load demand. With the plant we have the real-time flexiblitly to purchase cheaper power than the forward market offered. Usually a negative sales value for the Bilateral Sales savings is due to an excess of power (too much generation or too little load demand) requiring us to dump it in the available markets. This usually happens after the CAISO HASP market closes leaving only the SMUD BA to purchase. No trips this month.

NCPA and Lincoln Landfill Generation Report



Monthly NCPA and Energy 2001 Costs and Values Calaveras **GEO Therm** STIG Energy 2001 Total Sales Amount \$ 95,817 \$ 229,454 \$ \$ 61,399 \$386,670 Gen Amount 1,918 5,286 1,388 8,592 Variable Cost 3,653 61,322 85,215 \$ \$ \$150,191 Net <u>\$</u> 92.163 168.132 <u>(23.816)</u> <u>\$236.479</u>



Comments: When the REP is Offline (economics or trip related) the heat rate shown is the average heat rate for the plant at 120 MW for reference purposes.

Hedge Report



	Forward Electricity Hedges			Gas Hedge Position			
	MSCG	Powerex	Total	MMBTU	Avg Price	Amount	
Total Purchase	\$1,758,720	\$292,872	\$ 2,051,592	462,000	\$ 9.17	\$ 4,238,780	
Total Sale	<u>\$2,235,604</u>	<u>\$292,870</u>	<u>\$ 2,528,474</u>	462,000	<u>\$ 5.73</u>	<u>\$ 2,647,260</u>	
Net Value	<u>\$ 476,884</u>	<u>\$ (2)</u>	<u>\$ 476,882</u>	462,000	<u>\$ (3.44)</u>	<u>\$ (1.591.520)</u>	
APNode Hedges							
	MW	Avg Price	Amount				

Total Purchase	13,728	\$ 45.98	\$	631,249
Total Sale	13,728	\$ 47.08	\$	646,272
Net Value	13,728	\$ 1.09	\$	15,023

Comments: This quarter the Powerex contract is unfixed; therefore the Floating for Floating contract should net to ~\$0. The Morgan Stanley Capital Group (MSCG) contract nets by purchasing 100 MW, selling back 75 MW fixed, and 25 sold back at the spot or floating price.

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