

California Energy Commission
Dockets Office
1516 Ninth Street
Sacramento, CA 95814-5512

California Energy Commission

DOCKETED

15-HYDRO-01

TN 76309

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RE: Docket 15-HYDRO-01

Roseville Electric is a department of the City of Roseville and has owned and operated its electric distribution system since 1912. Roseville Electric services an area of approximately 31 square miles, coterminous with the City's borders. As of September 1, 2015, Roseville serves approximately 57,200 residential and business customers.

Roseville has long-term contracts for hydroelectric power with the Western Area Power Administration (Western) and the Northern California Power Agency (NCPA). Roseville's Western contract provides the City with 4.853% of the Bureau of Reclamation's Central Valley Project Base Resource output and consists of both large and small hydroelectric resources. Through May 2015, Roseville had an entitlement to 12% of NCPA's 258.7 MW Calaveras hydroelectric project. This entitlement was strategically returned to the NCPA pool until January 2016 so it could be used more effectively.

Please find answers to the questions submitted to Roseville below. Please call Mike Wardell at (916) 774-5622 MWardell@roseville.ca.us if you have any questions on the material in this letter.

Sincerely,

Michael Bloom
Assistant Electric Utility Director

October 2015 Drought Hydropower Update

Question 1: Please provide your publicly owned utility's (POUs) current estimate of total electric firm energy requirements in gigawatt hours (GWh) for 2015.

The City of Roseville's current estimate of total electric firm energy requirement for 2015 is 1,228 GWh.

Question 2: Please provide your POU's average annual hydroelectric energy procurement in GWh since 1970, including 2014. Please differentiate between generated and purchased hydro energy supplies, and specify the timeframe over which these averages were determined if fewer years than from 1970 were used.

Year	Total Hydro Procured
2008	152.4
2009	164.2
2010	188.6
2011	309.0
2012	175.2
2013	169.9
2014	110.6
2015	90.7

Note: Calendar year 2015 is year-to-date

The average from 2008 to 2014 is 183.1 GWh. This is slightly below the average year expectation of 213 GWh based on long term estimates from Western and internal documents available for Roseville's share of the Calaveras hydroelectric project.

Question 3: Please provide your POU's lowest hydroelectric energy procurement in GWh during the same time period used in Question 2, and identify the year in which this occurred. Please provide figures for both POU-owned/controlled hydroelectric generation and hydroelectric energy supply contracts.

Year	System Load	Total Hydro Procured	Pct Hydro Energy of Load
2014	1,241.7	110.6	9%

Question 4: Please provide your POU's hydroelectric energy procurement in GWh during 2014, if different from that shown in Question 3. If the same, please state so explicitly.

Roseville's 2014 energy procurement is the same as Question 3.

Question 5: Please provide your POU's most recent estimate of 2015 hydroelectric energy procurement (generation and purchases), both in GWh and as a percentage of this year's firm energy requirement.

Year	System Load	Total Hydro Procured	Pct Hydro Energy of Load
2015	1,228	95.3	8%

Question 6: Does your POU expect that low hydro conditions (or the drought more generally) will raise any system or local reliability concerns? Please explain.

Roseville expects that the drought and resulting low hydro conditions will reduce available generating capacity and impact system reliability. Reduced hydro capacity in California will reduce available capacity reserves and the ability of the system to recover from unplanned generator outages. However, system reliability is not reduced below NERC standard levels for reliability

Question 7: Under what circumstances would the adverse effects of the drought create severe or critical operational concerns for your system's electric generation or for electricity deliveries in your service area?

The loss of generation at Folsom Lake due to extreme low lake levels could impact the ability of the local transmission grid to restart in the event of a major system outage. Western has several other options for restarting the grid in case of a major system outage, but the loss of generation at Folsom Lake makes the process more difficult.

Question 8: At what value of annual hydro generation this year (in GWh) would the effects of drought result in significant or substantial financial concerns? Please estimate additional costs your POU may incur because of low hydro conditions. Please provide the assumptions used.

(Please highlight in yellow any information about specific costs, projected or potential, that are considered confidential or commercially sensitive. This could include potential impacts on rates that have not yet been considered for adoption by your local governing board. Such information, if provided and marketed as confidential, will be protected from public disclosure through December 31, 2016.)

Roseville estimates that it has incurred about \$7 million in additional costs due to reduced hydro generation. Hydro resources also provide much of the regulation reserve in California and will reduce Roseville's ancillary service revenue from the Calaveras generation. Roseville expects to see total additional costs of around \$9 million due the cumulative impacts of the drought. Costs for 2016 are also expected to be higher due to the impact of reduced reservoir carryover storage but Roseville has not estimated these costs.

Question 9: Please estimate any additional procurement of greenhouse gas allowances, in metric tons, that your POU has already incurred or that your POU expects will be necessary because of low hydro conditions in 2015. Please provide the assumptions used.

Roseville estimates it will need to procure about 36,000 to 41,000 tons in additional allowances depending on the continued severity of the drought.

Question 10: Does your POU expect that low hydro conditions (or the drought more generally) will have any other local impacts beyond local reliability? If so, are efforts underway to address these impacts?

As stated above, the drought will cost the utility and ultimately its customers about \$9 million in additional power supply costs.

Question 11: Will water curtailments this year, such as by the State Water Resources Control Board, affect your POU's hydroelectric energy procurement or dispatch (either utility-controlled hydro generation or purchases)? If so, to what extent will these supply resources be affected in terms of GWh, and over what timeframe(s)?

Water delivery curtailments by the Bureau of Reclamation will reduce the amount of generation from Western since generation is dependent on having water to deliver.

For 2015 to 2017 Roseville estimates an energy loss of 121 to 152 GWh depending on future rainfall amounts. It is important to note that the effects of the drought began before this year and may continue after this year.

Question 12: Did water curtailments in 2014 affect you POU's hydroelectric energy procurement or dispatch? If so, to what extent were supply resources affected and over what timeframe(s)? Did curtailments derate the capability to generate in megawatts (MW), and if so during what timeframes?

Yes, water curtailments in 2014 did affect Roseville's energy procurement. As previously stated in Question 3 the city procured 110 GWh from its hydro projects last year. This is a decline of approximately 81 GWh of generation from recent average hydro conditions.

The drought has not yet curtailed capacity significantly, but if it continues Roseville's smaller hydro projects will begin to approach deadpool later this year.

Question 13: Energy Commission staff would like to know about any potential drought related issues that will or could affect electric systems and/or local reliability. For example, are there known or potential issues with water allocations or supplies to thermal plants (for example, power plant cooling)? This is an open-ended question and we hope that your POU can, to the extent possible, provide us with information regarding your POU's overall assessment regarding how drought conditions may affect reliability in your local communities.

Roseville uses reclaimed wastewater for power plant cooling and does not anticipate any local generation operational issues due to the drought.