

Form 5 Committed Demand-Side Program Methodology

Efficiency Program Costs and Impacts

As a member of the Northern California Power Association Roseville Electric (RE) participates in various co sponsored energy efficiency resource planning studies, mostly recently participating in a potential energy reduction study in 2010. The study produced a model for use by member utilities to determine potential energy reductions based on each utility's specific service territory characteristics and demographics. The model is used by the member utilities to set specific energy efficiency targets. RE used the results provided by the model to determine annual energy efficiency targets for 2010 to 2020 to comply with AB 2021. These targets were approved by City Council on March 31, 2010.

Roseville Electric calculates and reports peak and energy impacts for energy efficiency programs using the E3 model developed and maintained by KEMA and Environmental Economics for use by California POU's to report actual energy savings and model proposed program savings in a "consistent and comprehensive manner" (Energy Efficiency in California's Public Power Sector, A Status Report March 2011). First year impacts are measured and reported to the California Energy Commission. One through five year impacts are measured and discounted as part of future electric load projections.

The E3 reporting tool is an Excel spreadsheet model containing a database of over 5000 energy savings measures that align with the DEER database. The model is revised on an annual basis and includes selections based on climate and includes calculations for lifecycle, natural, early retirement, gross and net impacts to energy efficiency savings. The model calculates savings for proposed and existing programs based on user inputs for the quantity rebated. Net to gross ratios are entered to the E3 model based on the market segment, measure installed, marketing intensity and message, staff experience and data as provided by EM&V and other utility work papers. Energy efficiency savings measures not included in the DEER database and thus, the E3 database, can be custom modeled using the E3 reporting model with user entered assumptions. RE enters program energy data for complex, custom projects when the data is documented by industry white papers or studies provided by industry resources, IOU's or licensed 3rd party contracted Energy Engineers. We do not attempt to calculate the interactive benefits between measures for prescriptive measures listed in the E3 model consequently RE's reported results are conservatively reported as they do not included the interactive energy savings associated with our rebated measures.

On an annual basis, RE contracts with a 3rd party consultant to provide evaluation, measurement and verification (EM&V) of selected energy efficiency programs to validate the results reported by RE in the annual SB 1037 and E3 reports.

RE budgets on a fiscal year basis as part of the City of Roseville budget process. Funding for Public Benefit programs is estimated at 2.85% of forecasted revenues. The proposed budget is allocated to energy efficiency, dispatchable demand response, solar and low income rate assistance programs. Energy efficiency programs are selected based on availability of the technology to rebate and the energy efficiency savings associated with the technology. When available, Roseville Electric utilizes grant funding to offer additional energy efficiency measures to our customers. Most recently, we utilized a federal economic ARRA stimulus grant of \$1.73 to implement several pilot programs for our commercial customers and an LED street light pilot for the City of Roseville. When grant funding is utilized RE maintains separate financial tracking and reporting for grant funds. The results reported in this IEPR report are for public benefits programs only.

Demand Response Program Costs and Impacts

Roseville Electric (RE) implemented a pilot residential demand response program, Power Partners in 2007. RE commissioned a survey of its residential population to determine potential participation in a residential demand response program. The results of the survey were used to develop a marketing campaign and annual incentive plan supporting an initial goal of 5 MW, 5000 installed devices. The goal was set based on historical energy usage data collected by RE staff, and growth estimates provided by City of Roseville Planning Department. Utilizing industry standard remote controlled A/C cycling devices, RE is able to remotely curtail A/C units during critical peak demand or grid related emergencies that occur between June and October.

At the time of this report 3800 devices are installed and available for dispatch. Dispatch criteria have not been finalized however the following considerations were used in dispatching the program during the 2010 summer:

- Price of peak power
- Peak temperatures for day and week
- Peak time
- Grid declared emergency
- Limit cycling to 10 minutes every half hour, no more than 30 minutes per hour during cycling period.

Renewable and Distributed Generation Program Costs and Impacts

Roseville Electric (RE) has offered retrofit solar rebates to residential, commercial and new home Builders since 2002. Prior to the advent of the California Go Solar website, solar production was estimated based on the manufacturer DC rating discounted by 22% to arrive at an AC rating. This rating was entered to a PV WATTS model to calculate energy production. In 2006 we began using estimates for energy and peak impacts based on the State of California CEC PV and CSI solar calculators.

We do not offer a distributed generation program. Programs are offered on a committed basis with annual funding from the Public Benefits budget. Annual Solar goals and required funding to achieve the goals are based on SB 1 and our 10 year requirement for funding. The majority of our annual Solar program budget is allocated to our BEST Homes, new construction program with the remainder of the budget allocated to residential and commercial retrofit programs.

Form 6 Uncommitted Demand-Side Program Methodology

Not applicable to Roseville Electric