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Form 6- Incremental Demand Side Program Methodology

Efficiency Program Impacts

Roseville Electric estimates coincident peak impacts for all energy efficiency programs utilizing several resources:

- CMUA Technical Resource Manual (TRM)- primary resource
- Northwest Regional Technical Forum Reference Manual
- IOU publications (white papers)
- Evaluation, Measurement and Verification of prior year program results
- Custom engineering calculations for measures not in the CMUA TRM or available through IOU white paper documentation.
- Calculation of baseline watts removed to installed watts for lighting technologies that are not included in the TRM.

The forecast for energy efficiency is based on Roseville Electric's adopted energy efficiency targets for 2017-2028. These targets were modeled for POU's by Navigant in the potential study contracted by the California Municipal Utility Association in 2016. Energy efficiency forecasts are integrated within Roseville's demand forecast.

Demand Response Program Impacts

Roseville Electric maintains a 3.4 MW residential dispatchable demand response program. This program was introduced to residents in 2007 and is supported by one way communication AC cycling devices. Roseville Electric estimates each device has a value of 1 kW and approximately 3400 devices installed on an ongoing basis. The program has not been required for a load reduction event in the 7 years it has been available for load reduction. The low utilization of the program can be attributed to other market and resource alternatives available. This program is currently being evaluated and no decision has been reached for the future of the program. For purposes of this report Roseville Electric is forecasting continuing the 3.4 MW program.

Roseville Electric is working with a consultant on its integrated Resource Plan (IRP) on demand response potential with the following analytical approach:

1) Estimate the eligible population(s) of customers that could install DR-related devices, within their homes and/or businesses, over the planning period (2018-2032)
2) Obtain estimates of average kW load drops per point, for key end-uses and equipment categories
3) Aggregate the load drops across end-uses and customer categories to obtain a mid-range estimate of DR MW to serve as the baseline estimate of technical DR potential, and
4) Develop similar low and high-end estimates to estimate the range of MW load potential for DR

In 2018, Roseville Electric will implement Advanced Metering Infrastructure. This data granularity will allow for a more detailed analysis of benefits integrating markets with load,

and measuring utility and customer benefits, allowing opportunity to evaluate new demand response program potential.

Renewable and Distributed Generation Program

Residential and commercial customers with solar represented 5.31% of Roseville Electric's total customer base as of 12/31/16. The reported 11.38 MW figure is based on the California Solar Initiative (CSI) reports generated from the California Go Solar website. Roseville requires submission of a CSI report with every interconnection. The forecast for PV is based on Roseville's expectations for net zero new construction homes and continued adoption by residential and commercial retrofit customers. Roseville Electric distributed solar forecast includes retrofit adoption curves for commercial and residential based on market potential and historical adoption. Additionally, new construction is forecasted based on current trends pre-2020, and assume solar contributing to net zero housing building standards post-2020.

Roseville has evaluated its distribution and determined sufficient capabilities to absorb high penetrations of distributed PV.

As part of the IRP, Roseville Electric is evaluating customer aggregation opportunities including distributed solar. Roseville Electric anticipates AMI data will be necessary to successfully implement any program with this granularity, aligning customer incentives with market and operational benefits.