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BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company for Approval of 2013-2014 Energy Efficiency Programs and Budget (U39M).	A.12-07-001 (Filed July 2, 2012)
Application of San Diego Gas & Electric Company (U902M) for Approval of Electric and Natural Gas Energy Efficiency Programs and Budgets for Years 2013 through 2014.	A.12-07-002 (Filed July 2, 2012)
Application of Southern California Gas Company (U904G) for Approval of Natural Gas Energy Efficiency Programs and Budgets for Years 2013 through 2014.	A.12-07-003 (Filed July 2, 2012)
Application of Southern California Edison Company (U338E) for Approval of Energy Efficiency and Demand Response Integrated Demand Side Management Programs and Budgets for 2013-2014.	A.12-07-004 (Filed July 2, 2012)

RESPONSE OF PULSE ENERGY TO THE 2013-2014 ENERGY EFFICIENCY PROGRAM PORTFOLIO APPLICATIONS

Dated: August 3rd, 2012

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RESPONSE OF PULSE ENERGY TO THE 2013-2014 ENERGY EFFICIENCY PROGRAM PORTFOLIO APPLICATIONS

I. INTRODUCTION

Pursuant to direction provided in the March 10, 2012 *Decision Providing Guidance on Energy Efficiency Portfolios and 2012 Marketing, Education and Outreach*[1] ("Decision"), and the July 13, 2012 *Administrative Law Judge's Ruling Consolidating Applications and Setting Preliminary Schedule*[2], Pulse Energy appreciates the opportunity to provide a response. Pulse Energy believes that the support for a whole building approach to energy efficiency should be strengthened and extended, especially to retrocommissioning (RCx) programs within the commercial and "MUSH" (municipalities, universities, colleges, schools, and hospitals) sectors. The whole-building approach allows utility customers to benefit

[1] Decision 12-05-015, on May 10, 2012 (DECISION PROVIDING GUIDANCE ON 2013-2014 ENERGY EFFICIENCY PORTFOLIOS AND 2012 MARKETING, EDUCATION, AND OUTREACH)
[2] JF2/ms6 7/13/2012 (ADMINISTRATIVE LAW JUDGE'S RULING CONSOLIDATING APPLICATIONS AND SETTING PRELIMINARY SCHEDULE)

from multiple energy conservation measures, with the optional addition of energy information systems to measure and verify energy savings.

II. BACKGROUND

Pulse Energy's experience has primarily been with two categories of energy efficiency programs: whole-building operations and occupant awareness. The former is of most relevance to this case, in which savings are primarily achieved through assessment and modification of the technology in a building.

One such program is BC Hydro's Continuous Optimization (C-Op)[3] in which Pulse Energy is actively involved. C-Op is part of BC Hydro's regulated "Power Smart" demand-side management portfolio, targeting large commercial and MUSH buildings over 50,000 square feet and providing building operators with advanced Energy Information Software (EIS) to deliver insight into their energy consumption. Combining this with building efficiency auditing and coaching for facility staff has created an attractive program offering that customers have been quick to embrace. BC Hydro covers the cost of consultants and EIS, with building owners only paying the cost of selected implementation measures. In its first two years of operation, over 450 large commercial buildings enrolled.

C-Op is a whole-building approach that looks at implementing a number of cost-effective improvements in the same period of time. It has seen exceedingly positive results, with typical participants projected to save around 11.5% of their annual energy budget.[4] The persistence of these savings is reinforced by the monitoring and alerting capabilities of the EIS. A summary of C-Op's progress as of July 2012 has been provided with this response as Attachment A.

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[3] For more information on BC Hydro's Continuous Optimization For Commercial Buildings, please see http://www.bchydro.com/powersmart/commercial/power_smart_partners/continuous_optimization.html

[4] Investigation Phase Results', July 2012, http://www.bchydro.com/powersmart/commercial/continuous_optimization/program_results.html

III. RESPONSE

As a foundation, Pulse Energy would like to commend the CPUC for its recognition of the value of whole building approaches and comprehensive retrofits to achieve "deeper, longer-term energy savings" throughout this process[5]. We believe that such programs have significant potential in the commercial and MUSH sector for cost-effective energy efficiency, and that it can play a crucial role in California meeting its goals in this area.

The emerging widespread availability of building-level interval meter data presents new opportunities for facilitating project-level M&V and informing program evaluation. This approach allows for more scalable and cost-effective acquisition of energy efficiency resources by reducing or even negating the need for on-site post-implementation measure-level audits. The approach further serves to lower the calculation, hardware and labor costs required for reliable M&V, and reduces reliance on deemed measurements for complex installations. Customers will benefit from a unified program design that that looks at the building's energy usage holistically, examining multiple measures simultaneously and identifying a comprehensive package of energy savings measures.

In particular, we recommend that the CPUC support program designs that allow for EIS-based M&V techniques. In this process, building-level meter data is combined with historical weather, occupancy and other information to calculate and establish a reliable performance baseline for each building in the program – typically using one year of historical data. Consumption data is compared to the performance baseline in an ongoing fashion, allowing for a calculation of current savings at a building-level. This approach can benefit program management, by allowing the monitoring of progress to program goals in near-real time as a leading indicator of program performance.

From an evaluation perspective, the whole building M&V approach both streamlines the aggregation of savings for impact evaluation, and simplifies the third-party evaluation process. The building-level M&V calculations can be rolled up into program-level savings, which may then be used as

[5] E.g. ASSIGNED COMMISSIONER'S RULING AND SCOPING MEMO REGARDING 2013-2014 BRIDGE PORTFOLIO AND POST-BRIDGE PLANNING, PHASE IV, October 25th 2011

a starting point for an evaluation process. If the accuracy of the M&V model used is proven within acceptable bounds, primary evaluation can focus on comparing the calculated baseline to actual, whole building energy data.

Two issues are implicitly raised at this juncture: model accuracy and data privacy. International Performance Measurement and Verification Protocol Option C offers an accepted framework for the whole building approach, but more work is needed to verify the performance of public and proprietary predictive models to acceptable accuracy levels. This is an area of ongoing research in the industry and we encourage the Commission to review these findings as they are released. We recommend that all proposed models be validated to an acceptable standard before use in building-level M&V.

Similarly, assurances around data security and privacy will need to be further refined. We recommend a proactive model that recognizes both the value of anonymized, aggregated data sets for program improvement, while maintaining restrictions appropriate to the ratepayer and sector. This is an issue on which we would welcome further collaborative research.

IV. CONCLUSION

This response has outlined why Pulse Energy believes that support for a whole-building approach to energy efficiency should be strengthened and extended, especially to RCx programs within the commercial and MUSH sectors. The whole-building approach allows utility customers to benefit from multiple energy conservation measures, with the optional addition of energy information systems to measure and verify energy savings. We believe that openness to these initiatives on the Commission's part will give the Joint Utilities, vendors and customers the confidence to collaborate on innovative approaches for the 2013-14 transitional period and beyond. Pulse Energy appreciates this opportunity to contribute to the Commission's efforts to provide the foundation for fundamental improvements to the California energy efficiency market over time.

Respectfully submitted,

/s/

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