BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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COMMENTS OF ORACLE UTILITIES ON ADMINISTRATIVE LAW JUDGE'S RULING INVITING COMMENTS ON DRAFT POTENTIAL AND GOALS STUDY

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I. Introduction

Oracle delivers Opower behavioral energy efficiency, demand response, and customer engagement services to over one hundred electric and natural gas utilities across ten countries and thirty-five states, including California. To date, these programs have saved nearly 25 terawatt-hours of energy. In 2019 alone, the Opower behavioral energy efficiency program is projected to drive 318 GWh of savings across the three electric IOUs. Oracle appreciates this opportunity to comment on the Draft 2019 Potential and Goals Study ("Study"). In particular, we commend Navigant on making significant improvements to its inputs for the Home Energy Reports (HERs) program, bringing the study's findings more closely in line with the magnitude of savings currently being generated by the program across the state. Oracle's comments are focused on this aspect of the Study and are based on the 12+ years of behavioral DSM experience contained in the Opower platform, which has been implemented by more than 100 utilities across a dozen countries and over 32 states.

II. Oracle Comments on Questions Related to the Home Energy Reports Program

Based on Oracle's experience and expertise in behavioral energy efficiency and demand response, we focus our comments exclusively on those questions related to the Home Energy Reports (HER) program at this time.

Question 2/2b: HERs represent a significant amount of incremental electric savings in 2020. Do you agree with the assumptions used to forecast HERs savings in this study?

Oracle is pleased to see the savings potential from HERs more fully acknowledged in the 2019 Draft PGS than in any previous iteration of the study, and we commend Navigant for collaborating with stakeholders to ensure more accurate inputs were used in this model update. Oracle generally agrees with the assumptions made in this study, with some caveats.

Penetration Rates of HERs

The assumptions about both the existing penetration rates and the projections for future growth of the HER program at each utility may require some adjustments. It is likely that Navigant relied on the most recent CPUC evaluations of the HER program in formulating the base penetration rates assumed for 2019. However, most of the IOUs have significantly increased the size of their HER programs in the two years since 2017, which was the last program-year evaluated. Therefore, the assumed base penetration rates in the Study are likely not reflective of the current reality on the ground. It should also be noted that HER penetration over time is a function not only of program growth (e.g. adding customers to the program), but also of program attrition, which occurs as customers move out of their homes or otherwise opt out of the program. While intentional opt-outs are so low as to be almost negligible, attrition through customer churn is significant and can act as a substantial damper on growth once penetration rates become relatively high, as "refill" cohorts must be added to the program in order to backfill those lost to attrition. If refill cohorts are not added to the program, the overall savings from the program will attenuate as less households receive the treatment.

Costs per unit of energy saved

Oracle believes that the inputs used for cost per unit of energy saved are fairly representative of the current performance of the program as it exists today. That said, it is certainly the case that each incremental expansion of the HER program as currently constituted is likely to generate less savings per household than prior cohorts, as the number of customers eligible for the program with higher usage (and therefore higher potential for savings) decreases. Oracle therefore believes that the program will have to evolve not only in terms of how many households are reached, but also in the overall approach to driving behavioral savings. Oracle is fully prepared and excited to work with the IOUs to enhance the behavioral program in ways that generate not only higher kWh and therm savings but increased *peak* savings and a consolidation of kWh savings during the hours of the day with the highest avoided costs.

Question 4: In D.10-04-029, the Commission adopted a different process for crediting savings from comparative energy use (e.g., HERs) programs, prohibiting the utilities from submitting workpapers for ex ante numbers to project savings for these programs; instead, savings from these programs can only be credited after the Commission verifies them. Results from HERs program impact evaluations have been consistently high for the past several (approximately seven) years. Should the Commission continue to evaluate home energy report behavior programs that have had consistent evaluation results for several years?

Oracle appreciates the Commission's recognition of how far behavioral energy efficiency has come since it first ruled on the HER program in 2009 and determined M&V policy in subsequent years. Opower (and now Oracle) has spent many years demonstrating both the effectiveness of the HER program as well as the accuracy of the savings measured through the randomized controlled trial methodology, and this has been born out in each evaluation. We therefore fully support the proposed modifications to the process for crediting savings from the existing HER program such that utilities should be credited savings on the same timeline as ex ante savings claims are made for deemed measures. This is not to say that HER savings should be literally "deemed", nor that these savings would be claimed exactly as an "ex ante" measure. Rather, the savings would continue to be measured via randomized controlled trials; however, the savings claims would be accepted by the Commission without the need for an independent evaluation to first validate the claims.

There are a few caveats to this recommendation that must be noted, however. Firstly, there are some analyses which are conducted specifically by evaluators which may or may not be conducted absent the utilities engaging with a consultant. Specifically, the measurement of jointly attributable savings in order to avoid double counting requires substantially a more technical analysis of program participation in the treatment and control groups that is generally only conducted by evaluation consultants. Determination of upstream lighting adoption has also traditionally been conducted by EM&V

consultants; however, as residential lighting programs dissipate, this may be less relevant in the future.

Oracle also notes that the time may be ripe to revisit the Commission's existing policy of removing all jointly attributable savings from the HER program. The randomized controlled trial, by definition, demonstrates full attribution of a given intervention. Therefore, it is a fact that the jointly attributable savings resulting from HER recipients disproportionately adopting other measures would not have occurred absent the HER program. Removing all jointly attributable savings from the HER program is therefore not empirically justifiable. The Commission should revisit this policy and find that at least some percentage (e.g. 50%) of jointly attributable savings should remain with the HER program.

Another important consideration relates to the future of the behavioral program more broadly. For the reasons mentioned in the Ruling, Oracle believes that the Commission should not continue to evaluate "home energy report behavior programs *that have had consistent evaluation results for several years*" on an annual basis. However, as the overall energy landscape changes in California, this behavioral program must evolve in order to increase cost-effectiveness and meet the evolving needs of the grid. Furthermore, this program is subject to the Commission-prescribed third-party solicitation process, and it is possible that any number of changes to either program design or implementers could result from those solicitations. Previous evaluations of HER programs deployed by other implementers revealed failures to generate statistically significant savings.[1] Therefore,

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[1] The *Impact Evaluation of 2014 Marin Clean Energy Home Utility Report Program* (CALMAC ID CPU0126.01) found that "the MCE HUR program did not achieve any detectable electric savings in any of the three waves. In fact, DNV GL found slight increases in consumption across the span of each wave, though none of these estimates were statistically different than zero."

The *Impact Evaluation of 2015 San Diego Gas and Electric Home Energy Reports and Manage-Act-Save Programs* (CALMAC Study ID CPU0157.01) found "Contrary to HER (Opower) findings, the MAS (Simple Energy) program did not show any evidence of load reduction during the identified peak."

Oracle recommends this question be revisited in the event that any substantive change is made to the HER program in subsequent years. Upon the implementation of such changes, Oracle recommends the Commission establish a framework to evaluate the program every 2-3 years, as opposed to annually.

III. Conclusion

Oracle Utilities appreciates this opportunity to comment on the Administrative Law Judge's Ruling Inviting Comments on Draft Potential and Goals Study. We are pleased to see the Commission and Navigant acknowledge the substantial savings potential from the HER program and the recognition of the demonstrated reliability of the program's savings claims. We look forward to helping California achieve its ambitious energy efficiency targets in the years ahead.

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Respectfully Submitted,

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