

***Informal Comments of Pacific Gas and Electric
Company (U 39-E), San Diego Gas & Electric
Company (U 902-E), and Southern California Edison
Company (U 338-E) on the Staff Proposal for
Incorporating Energy Efficiency into the SB 350
Integrated Resource Planning Process***

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INTRODUCTION

Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company, herein the “Joint Utilities,” respectfully submit these informal comments in response to the *Staff Proposal for Incorporating Energy Efficiency into the SB 350 Integrated Resource Planning Process* (“Staff Report” or “Staff Paper”).

The Joint Utilities commend Staff on its work to begin incorporating Energy Efficiency (“EE”) into the Integrated Resource Plan (“IRP”) process. As modeling for the 2019-2020 IRP moves forward, it is essential that all supply- and demand-side resources be optimized within the modeling process so that the IRP can define cost-effective, system-wide, and load-serving entity (“LSE”)-specific portfolios that will work to achieve California’s ambitious greenhouse gas (“GHG”) emissions reduction goals. Staff has undertaken a complicated task and this proposal provides a strong foundation for collective optimization of all supply- and demand-side resources to cost-effectively meet statewide GHG emissions reduction efforts.

In these comments, the Joint Utilities express support for Staff’s proposed “beta-test” approach for integrating EE into 2019-2020 IRP cycle. The Joint Utilities propose modifications to build upon and strengthen the Staff Report. These modifications address process, modeling, and policy issues. The Joint Utilities support continued discussions with Staff and other key stakeholders as EE is integrated into the IRP process to inform future EE programs and procurement activity.

**THE JOINT UTILITIES COMMEND STAFF ON ITS WORK TO BEGIN
INCORPORATING EE INTO THE IRP PROCESS**

It is appropriate to align EE goals with GHG emissions reduction objectives

The vision outlined in the Staff Report is a crucial first step in realigning and linking resource planning to resource procurement within the context of a common GHG emissions reduction framework. The Joint Utilities encourage the California Public Utilities Commission (“Commission”) to take similar steps to optimize other distributed energy resources (“DERs”) in IRP modeling. Specifically, behind-the-meter (“BTM”) photovoltaics (“PV”) and demand response (“DR”) should also be optimized within the IRP process.

Modeling and planning for EE in an IRP framework represents a positive step in modernizing EE to meet the needs of future GHG emissions reduction efforts. This positive step should be included as yet another key driver in California EE portfolio design, along with other major policies enacted since 2015. These policies include, but are not limited to:

- Senate Bill (“SB”) 350, which doubles EE savings goals and enables measurement of savings via meter-based analysis;
 - Assembly Bill (“AB”) 802, which established existing conditions baselines and prioritizes measurement of savings via “normalized metered energy consumption”;
 - AB 793, which mandates support for home energy management technologies;
 - Decision (“D.”) 16-08-019, which directed outsourcing the EE portfolio for increased third-party implementation;
 - D.18-05-041, which approved the EE business plans and the strategies therein;
- and

- The “Market Transformation Staff Proposal,”¹ which creates a dedicated framework for longer-term initiatives designed to induce sustained changes within markets.

The advent of Pay-for-Performance programs, the growth of on-bill financing offerings, market transformation initiatives, load shifting, and integrated DR strategies, among other new strategies, are all expected to play central roles in the upcoming EE portfolios, while the traditional measure-based deemed and custom interventions that serve as the foundation for the current EE Potential and Goals modeling are becoming less prevalent. The Joint Utilities encourage the Commission to incorporate potential impacts from these new EE strategies and delivery models to the extent possible in the EE Potential and Goals modeling that will inform EE incorporation into 2019-2020 IRP modeling. Where insufficient data exists for robust modeling, the Joint Utilities suggest that the EE portfolios retain latitude to continue to develop the most promising new strategies to achieve cost-effective GHG emissions reductions that can be integrated more rigorously into the IRP as performance and cost-effectiveness data become available.

The Joint Utilities support the “beta-test” approach described in the Staff Report

The Joint Utilities support the Staff Report’s concept of using the 2019-2020 cycle to “beta-test” EE integration into the IRP process and undertake full integration in the 2021-2022 cycle, and also recommend developing a pathway to optimize other DERs, such as BTM PV and DR, in 2019-2020 IRP modeling – or at a minimum including them in the “beta-test” optimization. The “beta-testing” approach for EE in 2019 should be a robust parallel study that tests EE for integration into the IRP process and informs the EE proceeding, guiding

¹ R.13-11-005. *Administrative Law Judge’s Ruling Seeking Comment on Market Transformation Staff Proposal* (8/29/2018).

developments in that proceeding in a way that enables the integration of IRP EE planning results into EE portfolios starting in 2021-2022. This is particularly important, given the imminent transition of the EE portfolio to statewide and third-party implementation and the need to signal directionality, including for budgets and scope, for an optimal EE portfolio as part of that process.

The 2019-2020 “beta-test” is an opportunity to streamline planning and establish effective coordination between the IRP and EE proceedings (i.e., both proceedings need to assume the same levels of EE in final plans until EE is fully integrated into the IRP). The beta test period also allows adequate time for the EE proceeding to identify a pathway to transition from EE’s current status as a resource shaped outside of IRP to one that is procured based on IRP analysis. In addition to coordination, this will require consideration of several challenging issues, such as maintaining a talent pool and managing budgets in transition, cost-effectiveness analysis, and procurement within the paradigm of third-party portfolios. Such an approach enables a reasonable phase-in period for complex DERs, allowing for adequate time to consider lessons learned and feedback before full integration occurs.

For other DERs like BTM PV and DR, the Joint Utilities recommend modeling and optimizing these resources in the 2019-2020 IRP cycle. In contrast to EE, data is readily available to begin modeling these resources. Load shapes exist for both BTM PV and DR. In the case of DR, the resource was already partially modeled as a candidate resource in the 2017-2018 IRP for DR levels that exceed approved funding levels. In the case of BTM PV, the resource was already tested in a sensitivity study in the 2017-2018 IRP. Therefore, there is no need to wait until the 2021-2022 IRP to fully integrate BTM PV and DR into RESOLVE modeling.

If the Commission decides not to fully integrate these resources in 2019, the Commission at a minimum should include them in the “beta-test” proposed for EE in 2019. Such integration is important to ensure that the 2019-2020 IRP considers scenarios where all resources can be optimized and interactive effects can be captured. In the Staff Report modeling, it appears that EE was optimized after embedding forecasted levels of the other DERs like BTM PV. This approach could reduce the quantity of cost-effective EE savings that RESOLVE identifies by not allowing EE resources to compete with BTM PV resources.

The Joint Utilities appreciate Staff’s initial EE categorization framework for the purposes of IRP modeling and recommend further refinements

The Staff Report outlines a proposal to classify EE measures into two broad categories for the purposes of IRP modeling: “load-modifying” and “supply-side” or “selectable” EE.² The Staff Report proposes that the process by which measures are assigned to these categories should be determined via the existing stakeholder working groups, such as the Demand Analysis Working Group (“DAWG”). The Joint Utilities support this general approach, with some proposed refinements.

The EE portfolio largely consists of programs with a mix of objectives, including achieving energy savings goals, supporting various non-resource policy objectives,³ and meeting long-term objectives such as Market Transformation. These non-resource policy objectives, like reaching hard-to-reach customers or workforce development, can conflict with other policy objectives like maintaining a cost-effective portfolio. Within the context of the IRP, EE programs that incur additional costs associated with non-resource goals are not likely to be

² See Staff Report at 21.

³ For instance, the recent EE Business Plan Decision (D.18-05-041) discusses the need to support disadvantaged communities, hard to reach customers, local governments, and workforce development, among other non-resource policy objectives.

competitive. Therefore, to best compliment the “selectable” and “load-modifying” categories of EE, while also best addressing non-resource and long-term policy objectives, the Joint Utilities recommend that the Commission treat EE as three distinct program areas to help streamline IRP integration. The program areas and their alignment with “selectable” and “load modifying” should be as follows:

Selectable EE

1. EE programs designed to cost-effectively deliver GHG emissions reductions in a competitive IRP environment.

Load-modifying EE

2. EE programs designed to achieve primarily non-resource policy objectives.
3. EE programs designed for long-term load reduction and achievement of SB 350 targets, including Codes and Standards and Market Transformation initiatives.

The first of these categories, comprised of “selectable” EE, should be guided by the IRP modeling. The second and third program areas, which would be classified as “load-modifying” EE, as described in the Staff Paper. This categorization helps ensure competitive EE programs are appropriately optimized, while also allowing for dedicated commitment to other California policy objectives where appropriate.

As the process moves forward, the Joint Utilities support the use of existing stakeholder processes, such as the DAWG, to determine the appropriate categorization of EE into “selectable” and “load-modifying.” The DAWG is a useful venue for stakeholders to provide input into this process, given that this group is a forum for technical discussion and consensus-building on inputs and results for the electricity and natural gas demand forecasts adopted by the California Energy Commission (“CEC”). As the demand and DER forecasts included in the

Integrated Energy Policy Report (“IEPR”) are also produced by the CEC, the Joint Utilities agree this forum would likely lead to better consistency and interagency coordination across proceedings.

THE JOINT UTILITIES SUGGEST SOME MODIFICATIONS TO STAFF’S PROCESS FLOW AND MODELING APPROACH

The Joint Utilities appreciate that Staff has put substantial thought and effort into defining an appropriate process and modeling approach to integrate EE into the IRP process. While the Joint Utilities are supportive of this overall approach, the Joint Utilities have several recommendations for streamlining or modifying the process and modeling as this effort moves forward.

The Joint Utilities propose the Commission consider adopting a streamlined, modified process flow to clearly depict the steps by which EE and IRP will be integrated

While the Joint Utilities support the above-described beta test approach to integrate EE into the IRP process, there may be an opportunity to streamline the process flow that describes how EE, IRP, and IEPR interact with each other. Specifically, Figure 5 in the Staff Report depicts the proposed framework for information flows between the EE, IRP, and IEPR proceedings at varying stages in the process.⁴ The current proposed process flow shows how a new EE procurement process would change in response to coordination with the IRP, and its complexity appropriately captures the challenging nature of modifying a large EE portfolio and integrating it with other proceedings.

⁴ See Staff Report at 24.

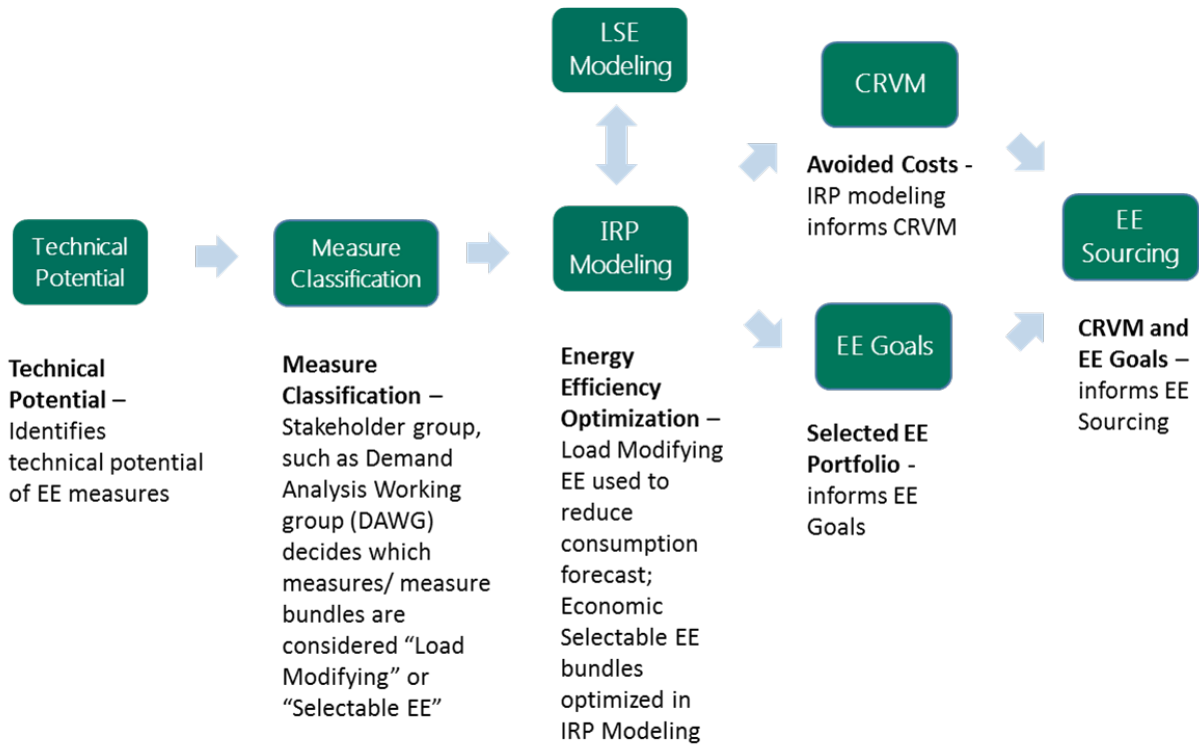
The Joint Utilities propose, for the purposes of illustrating EE’s integration into IRP modeling specifically, that this framework can be simplified and streamlined to adopt a more linear process. Below, in Figure III-1, the Joint Utilities suggest how the Commission could start with an EE Potential Study, categorize and model load-modifying and selectable EE, and then flow those results back to EE-specific proceedings for goals evaluation and sourcing. The key difference between Staff’s proposal and the Joint Utilities’ proposal is that in the Joint Utilities’ proposal IRP planning informs EE procurement, whereas in the Staff Report, EE goals are established before LSE planning activities have occurred.

This proposed process framework also allows for the necessary flexibility in IRP portfolio modeling and ensures procurement considers future information flows from IRP modeling into a Common Resource Valuation Methodology (“CRVM”) framework. In particular, studying and defining EE goals after the IRP modeling is complete, rather than before (as implied in Staff’s proposed methodology), is important. This will ensure that EE goals have a basis in IRP modeling, while LSEs retain adequate flexibility in proposing alternative portfolios that may contain different levels of EE than those adopted in the Reference System Plan. Explicitly incorporating the CRVM helps ensure that procurement decisions are made in line with IRP optimization and resource valuation, ultimately working toward the objective of reaching state GHG emissions reduction goals while maintaining reliability and affordability.

A depiction of the Joint Utilities’ proposed process flow is illustrated below, along with an explanation of each component:

Figure 0-1

Joint Utilities' Proposed Process Flow



- **Technical Potential** – Regarding the EE Potential and Goals Studies, D.18-05-041 concludes, “Commission staff should integrate the study of the energy efficiency goals and potential with the potential for demand response in the next two-year study process.”⁵ The Joint Utilities recognize the potential value of a better integrated EE and DR portfolio for the purposes of the IRP process, and encourage the Commission to conduct a robust study of the combined potential, including impacts on cost-effectiveness. EE Goals Studies would then become an output of IRP modeling.

⁵ D.18-05-041 Conclusion of Law 8, at 171.

- **Measure Classification** – The DAWG, or another stakeholder group, would utilize information from the EE Potential Study to identify and classify measures into the two broad categories previously mentioned – load-modifying and selectable EE.
- **IRP Modeling** – In this step, load-modifying EE resources would be modeled in the IRP process as a reduction in overall consumption, whereas selectable EE resources would be optimized along with other demand- and supply-side resources.
- **LSE Modeling** – Information from IRP modeling, including the selectable EE for different portfolios, would be available for analysis and used in individual LSE IRP plans.
- **CRVM** – Avoided costs from IRP modeling would be used to inform a CRVM. At this point in modeling, each resource – both supply- and demand-side – could be measured based on similar components and informed by the values associated with each similar component.
- **EE Goals** – EE goals, potentially informed by combined DR impacts, would be informed as a result of IRP modeling, potentially including specific EE measure bundles of both load-modifying EE and selectable EE.
- **EE Sourcing** – EE sourcing would be informed through a combination of value streams identified in CRVM, as well as both IRP and LSE modeling.

If the Commission does not adopt this proposed flow diagram, the Joint Utilities offer two recommendations that would improve the existing Figure 5:

- **Incorporate CRVM** – The current framework in Figure 5 indicates that cost-effectiveness analysis would be done in the EE proceeding independent of the IRP. The Joint Utilities recommend that a CRVM box or bubble be added to the IRP

column with an arrow pointing to the goals adoption process and specifically the cost-effectiveness box in the EE column.

- **Final EE goals should inform the IRP’s Reference System Plan** – The current framework in Figure 5 allows for the adoption of a Reference System Plan that is inconsistent with the adopted goals in the EE proceeding. An arrow should be added from the “Adopted Goals” box to the EE column to the Reference System Plan box in the IRP column.

The Joint Utilities propose several modifications in the modeling process for integrating EE into the IRP

As discussed above, the Joint Utilities note the rapid evolution of the EE portfolio toward more holistic programs. To the extent possible, the Joint Utilities encourage the Commission to assess the potential of a portfolio that has responded to the recent EE policy directives.

Consideration of EE administrative and avoided costs in IRP modeling

There may be alternative approaches to the treatment of EE programmatic, administrative and avoided costs in IRP modeling. Costs associated with the design, delivery, and administration of load modifying EE and selectable EE programs are not disaggregated from the measures costs. Instead, these are spread out through an entire portfolio of measures. While administrative costs should be considered, it may be more appropriate to consider those costs either within the IRP model (e.g., added onto an entire portfolio of EE measures) or through the EE goals process. Additional discussion is needed to ensure that administrative costs are properly treated and do not represent a burden to the cost-effective delivery of EE resources. Similarly, avoided costs should not be used to determine the economic potential of selectable EE. Instead,

the Joint Utilities recommend that IRP modeling be used to inform a CRVM, which, in turn, would apply avoided costs equitably to all selected resources.

Recommendations to prepare EE for full IRP integration

The Joint Utilities offer the following recommendations, some of which must be undertaken in the EE proceeding, to prepare EE for full integration into IRP modeling.

- Total Resource Cost (“TRC”) Threshold in Potential Study: Preliminary modeling results in the Staff Report indicate that RESOLVE found a lower level of Selected EE, particularly in early years, relative to what was found to be cost-effective in the 2017 EE Potential and Goals Study. The Staff Report notes that one difference between the Potential Study and the RESOLVE modeling that could have led to the difference in identified potential levels is the use of a TRC threshold of 0.85 in the former. The Joint Utilities agree that this discrepancy likely contributed to the difference in cost-effective potential identified by the two studies. To resolve this discrepancy, the Joint Utilities believe it is critically important to move to a TRC threshold of 1.0 in the 2019 Potential Study.
- Better Alignment of Potential Study with EE Program Rules: The Joint Utilities encourage Staff to work toward greater alignment between the Potential Study and EE program ex ante guidance. There have been instances of past potential studies that have included savings in market potential that were not feasible based on ex ante guidance (workpaper disposition and Database for Energy Efficiency Resources (“DEER”) parameters). For instance, despite identifying California market potential

for 18 – 25 GWh annually of streetlighting savings from 2018 – 2030,⁶ recent Commission outdoor lighting dispositions⁷ have established LED baselines for streetlighting measures, eliminating most claimable cost-effective savings. Similarly, the preliminary modeling in the Staff Report identifies a high level of lighting savings, with commercial lighting accounting for more than half of the total selected EE for 2030. This level of savings may not be achievable based on several recent workpaper dispositions, which have substantially reduced the savings for lighting measures. A focus on better alignment between ex ante guidance and the 2019 EE Potential Study will help improve the accuracy of the Potential Study and create a more seamless handoff to the IRP once full integration occurs in 2021. It is the Joint Utilities’ understanding that currently the Potential Study only reflects official Industry Standard Practice study results recognized by the Commission and published on the Commission website. Therefore, ex-ante guidance on standard practice baselines provided via DEER resolutions and dispositions are often not incorporated in the Potential Study.

- Non-resource costs: The modeling behind the Staff Report allocated non-resource costs across all EE measures included in the optimization, which raised the cost of EE measures. While this approach would be appropriate if the non-resource programs only produced benefits for the EE programs included in the IRP, the reality is that many of the non-resource programs provide benefits to actors outside of EE programs. For instance, many of the workforce education and training classes are

⁶ Data from: 2018_PG Study Results Viewer Final Public_092517.

⁷ 2018 Outdoor Lighting Disposition Update Covering Workpaper Resubmission in Response to a 2018 Phase 1 Disposition, California Public Utilities Commission, Energy Division, May 7, 2018.

attended by industry professionals that incorporate their learnings into non-EE funded projects. Likewise, current EE policy recognizes “spill-over effects” wherein EE programs contribute to savings outside of the Program Administrators’ service territory. The recommendation above to catalog EE programs dedicated to non-resource policy objectives within the load-modifying EE would encompass the non-resource EE programs.

- Presentation of results: The results presented in the Staff Report and appendices focused on the levels of cost-effective EE that was modeled in RESOLVE. While these results are informative and should continue to be presented, the Staff Report did not include the portions of EE that were embedded. This presents an incomplete picture of the level of EE that presumably would be included in actual goal setting. The Joint Utilities recommend that future results of the RESOLVE modeling process also present the whole picture, which includes embedded EE that was not optimized (behavioral, codes and standards, low income, custom).

INCLUSION OF EE INTO IRP MODELING SHOULD ENSURE THAT SUPPLY- AND DEMAND-SIDE RESOURCES ARE VALUED EQUITABLY

In previous comments, the Joint Utilities have supported the concept of the CRVM to better align planning to procurement and to be able to adequately assess the cost-effectiveness of resource portfolios designed to achieve GHG emissions reduction goals. The Joint Utilities continue to support this concept and look forward to working with Staff and stakeholders on its development going forward. In implementing the CRVM, the RESOLVE model should consider the value of all resource options using consistent methodologies, including but not limited to energy value, capacity value, and the value of reducing GHG emissions. The Joint Utilities

continue to support reevaluation of the DER-specific, “straight-lined” GHG Adder for use in demand-side cost-effectiveness analyses adopted in D.18-02-018. This decision established two different GHG price trajectories – the DER-specific GHG Adder for use in the Avoided Cost Calculator, and the GHG Planning Price for use in IRP.⁸ There is a single GHG Planning Price trajectory that results from any specific case in IRP optimization modeling. It is important, for consideration in both planning and the CRVM, for the GHG Planning Price to be consistently applied across both supply- and demand-side resources.

As EE and other demand-side resources are integrated as selectable resources into the IRP optimization, the GHG Planning Price that results from IRP modeling should apply to all resources consistently. The Joint Utilities also recognize that the timing associated with these modifications is an important consideration. As EE Goals Studies move forward in 2019, it will be important to mitigate any disconnect between the GHG abatement price values applied in that study and the valuation considered in IRP through the eventual CRVM mechanism. While this does not obviate the need to align GHG Planning Prices across supply- and demand-side resources, the Commission and stakeholders should be mindful of this needed transition as EE (and other resources) continue to be integrated into IRP modeling.

CONCLUSION

The Joint Utilities appreciate this opportunity for input to continue improving the already beneficial work Commission Staff has done to integrate EE into the IRP process. The Joint Utilities look forward to continued engagement with Staff and stakeholders as this process moves forward.

⁸ D.18-02-018 at 116-118.