CLEAResult®

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Paula Gruendling

California Public Utilities Commission

505 Van Ness Avenue

San Francisco, CA 94102

Dear Ms. Gruendling,

CLEAResult appreciates the opportunity to provide informal feedback on the recently-held CPUC workshops on existing conditions baseline (ECB) and normalized metered energy consumption (NMEC) (January 26 and 27, 2016). We strongly feel that AB 802 provides a basis to take energy efficiency to a scale far beyond what is possible under the current program paradigm, accelerating progress toward the state's ambitious goals.

Among our many programs we have been supporting PG&E in implementing the Commercial Whole Building Demonstration and have seen first-hand the results of this comprehensive approach to improving energy efficiency (20%-30% whole building savings). Implementing the Demonstration within the current policy paradigm diverts a significant portion of our expertise/budget to determining measure-by-measure savings and establishing two baselines (existing conditions and code baseline). We are also seeing savings left stranded (behavior and some retrocommissioning savings) because meeting current regulatory requirements would limit reportable savings and engineering costs would not be cost effective. Applying ECB and NMEC within this program would greatly enhance its scalability, reduce engineering costs, and capture additional stranded savings.

Given the state of the art in analytics technology and established M&V guidance such as the International Performance Measurement and Verification Protocol (IPMVP) the potential for scalable, consistent, transparent ECB/NMEC M&V approaches exists <u>today</u>. Adopting ECB/NMEC for project reporting has a number of significant benefits, which are noted below. We share the concerns of CPUC and ratepayer advocacy groups that applying an ECB

approach would result in projects capturing 'naturally occurring' savings, and this must be addressed. We would encourage the adoption of a simple ECB/NMEC approach at the project level (or aggregated projects), and mitigation of freeridership risks by [a] setting an appropriate value (ie. incentives) for the savings, and/or [b] developing a formula for derating savings (such as a net-to-gross ratio) based on market data for specific measure types. Further, when considering the effective use of ratepayer dollars we would note that the current policy paradigm diverts a large portion of budget towards onerous measurement approaches at the project level and third party evaluations, leaves some savings stranded, and does not completely eliminate the risk of capturing naturally occurring savings. In adopting ECB/NMEC the risk of capturing some naturally occurring savings can be outweighed by the overall portfolio/evaluation cost reductions and societal benefits.

I have attached some specific responses to questions raised at the CPUC Workshops and some comments on the recent "HOPPS" ruling.

Sincerely,

Nick Brod

Senior Director

Attachment A: Comments on specific questions raised at the CPUC Workshops

Q1: What energy efficiency is currently occurring in the building stock, and what is stranded?

There is very little reliable data on stranded savings potential. The proposed Navigant study (presented at the workshop) should provide useful data on this topic. Cadmus/Itron studies (also presented at the workshop) indicated positive market trends (ie. increased energy efficiency) for lighting both within and outside of programs. For HVAC data indicated that efficiency improvements outside of programs lagged behind that of program participants. We would note that while lighting participant/non-participant data was diverging, there can still be a role for ratepayer-funded programs in accelerating further improvements in energy efficient lighting, such as the effective use of advanced lighting controls.

Savings from commercial behavior-based improvements are stranded as savings cannot be cost-effectively measured within the current regulatory framework (established M&V methods using randomized control trials and quasi-experimental design are not appropriate for most commercial buildings). Savings from repairs, controls optimization, and equipment upgrades are stranded due to limited O&M budgets and lack of attention on preventive maintenance. These stranded savings are increasing due to the ever-more onerous requirements placed on retrocommissioning programs. The increased regulatory requirements significantly increase programs costs, to the point where they may cease altogether due to the level of effort required to report savings.

The commercial real estate sector as a whole has stranded savings, as it is still common for owners to pass through utility costs and many owners have a short 'hold period,' resulting in owners having little motivation to invest in deeper upgrades. There are some code-driven improvements as a result of tenant turnover upgrades (if permits are pulled) but deeper opportunities often remain untouched.

The small-to-medium commercial sector continues to strand potential as many owners do not have staff to manage upgrades effectively and energy efficiency is low on the list of priorities. This is also exacerbated as small customers are far less likely to have dedicated utility account managers.

Q2: What would be the implications and consequences of using existing conditions baseline (ECB) without exception?

Using 'ECB' without exception would:

1. Lead to simpler, more transparent, and more consistent project M&V and regulator EM&V, thereby reducing ratepayer dollars allocated to those activities;
2. Allow for the capture of savings for certain types of activity that may be missed under the current costly M&V / EM&V environment (eg. Behavior savings, small commercial RCx) – thereby increasing program savings yield;
3. Open up programs to better target stranded savings, for example equipment that would otherwise be repaired indefinitely;
4. Align project savings (actual gross impacts) with state policy goals and resource planning priorities;

5. Provide a consistent basis for gathering data & metrics over time that would support capital investors' risk management needs; this would pave the way for long term growth in critically-needed private capital
6. Capture some energy savings that would otherwise naturally have occurred through market forces, state/federal code requirements, etc.
7. Potentially treat all savings the same for a given project, regardless of measure type, complexity, persistence, and also regardless of the building's resultant performance (ie. below, at, or above code).

Items 1 to 5 above would facilitate a major scaling of energy efficiency in the state and would leverage ratepayer dollars to significantly increase program impacts. It would also resolve a fundamental disconnect that has existed between programs (reporting net estimated savings) and policy (striving towards gross energy reduction goals).

We share the CPUC and ratepayer advocacy groups' concerns over items 6 and 7 above, and are fully committed to collaborating on efforts to address these items in program designs and program evaluation approaches, while pursuing a simple and transparent approach at a per-project level that yields the benefits from items 1 to 5.

Q3: Currently, virtually all of portfolio savings are estimated, either through deemed or calculated methods, but both AB 802 and SB 350 focus on meter-based savings. To what extent should the future EE portfolio be metered/ pay for performance versus deemed/calculated savings? In other words, which types of EE activities are best reached through metered approach and which are best reached with deemed or calculated savings approaches?

We support general guidelines on the applicability of the NMEC approach, with the allowance that Program Administrators can justify their use of NMEC on a case-by-case basis. Considerations might include:

- Single measures with simple load characteristics (eg. Lighting, vending machine controller) could be deemed, for simplicity, if installed in isolation. Deemed may also be considered if the delay from waiting for ex post data creates a significant market barrier (ie. some customers may be resistant to invest upfront if they have to wait 1-2 years for ex-post calculations);
- Calculated approach could be used for equipment with variable load characteristics, and for measures where the percent of total building consumption saved is low (<5%). Might also be considered for cases where there is insufficient baseline energy data due to a recent renovation or an owner/tenant only recently taking occupancy. Might also be necessary to use calculated approach as a backup to NMEC where unexpected changes happen during the ex-post-monitoring period which cannot be addressed through non-routine adjustments to an energy model;
- Meter-based (NMEC) approach is ideal for cases where savings are hard to calculate (eg. Behavior) and for comprehensive, complex, and interactive measures are installed (eg. Retrocommissioning, or combinations of measure types).

<u>Questions specific to workshop day 2, panel 2, on potential program designs</u>

Q4: What customers or market segments will most benefit from [NMEC/ECB] programs?

Customers with relatively consistent operating characteristics (eg. Schedule and productivity). Also require customer to be committed to staying at the building for 3-4 years, to allow for the project assessment/implementation plus ex-post measurement period.

Q5: What strategies or past experience are you exploring for investing in upfront costs, providing incentives and balancing against savings that are quantified after the intervention?

Retrocommissioning programs have always been based on paying incentives after implementation has been verified (ex-ante), with the customer bearing the upfront installation costs; a meter-based approach can build from that base. Financing (eg. On-bill financing) could be a key tactical tool to support meter-based approaches.

Q5: What are the considerations regarding using whole building meters vs. submetering?

Using whole building meters is preferred as it will be more reflective of grid impacts and gross energy changes (better alignment with the state's policy goals). In certain cases submetering may offer benefits however; for example if the measure savings are a relatively low percentage of whole building energy usage, or if there is a need to separate a project impacts from other activities at a building (for example a lighting project may be kept separate from an unrelated renovation that affects HVAC energy use). Submetering may also be beneficial if a project affects only one tenant in a multi-tenant property.

Q6: Comment on U.S. EPA EM&V Guidance for Demand-Side Energy Efficiency

EPA best practice guidance was cited at the Workshops by one presenter as one recommendation for providing ratepayer accountability. We support the review and application of nationally accepted guidelines wherever possible and practical. We also note that California is a recognized leader in energy efficiency, and that AB 802 could be an industry 'game-changer;' as such it may be the case that certain best practices would hinder the effective application of AB 802. We urge the CPUC to take a forward-looking view of how AB 802 can be most effective for California, and to allow for exceptions to EPA guidance or other established best practices where necessary.

Attachment B: Comments on Assigned Commissioner and Administrative Law Judge's Ruling Regarding High Opportunity Energy Efficiency Programs or Projects ("Ruling")

We welcomed the Ruling that was released December 30, 2015. The Ruling addressed many of the concerns we felt regarding the suggested guidelines in the CPUC Staff white paper released in November 2015, and in doing so provided potential for some promising HOPPS program proposals.

While the Ruling was a big step forward we would urge further consideration of the following items as you continue development of the final NMEC/ECB guidelines:

1. The Ruling set the ex-post data collection period for behavioral, retrocommissioning, and operational projects at two years (Sec 3.1).While this is an improvement from the initially-suggested three years we would recommend allowing for an initial reporting milestone at one year ex-post, which could then be trued up in a subsequent year or years.

2. Section 3.3 of the Ruling applies an effective useful life (EUL) of one year for behavioral, retrocommissioning, and operational projects. We feel it is inappropriate to consider retrocommissioning and behavioral interventions as equal in this respect. Retrocommissioning typically includes physical repairs and programmed control changes, both of which would be expected to persist longer than behavior changes. Further, the Ruling states that "Research on the persistence of retrocommissioning measures shows savings start degrading after three years" (Sec 3.4.4). In addition, the Ruling requires customers to acquire a three-year maintenance contract when repairs/maintenance are carried out (Sec 3.4.5); the rules are therefore imposing a three-year financial commitment on the customer when only one year of benefit is being recognized. We believe the guidance in the Ruling will act as a disincentive for program administrators and customers to invest in retrocommissioning, resulting in increased stranded savings.

   We strongly recommend that final NMEC/ECB guidelines for retrocommissioning allow for a three-year life beyond the ex-post period. This may be adjusted if research is published to support a different EUL.

3. Section 3.4.3.3 of the Ruling ("Customer Incentive Design"): Item 5 indicates a requirement to make baseline adjustments to account for "standard building repair and maintenance" - this contradicts guidance elsewhere in the ruling (and the text of AB 802 itself) which allows for all savings to be captured. We strongly feel that this requirement would create a major barrier to scaling the efforts of retrocommissioning in reaching stranded savings, and hope that this requirement will not appear in final AB 802 guidance.

4. We note that Attachment A, referenced in certain sections of the Ruling, does not fully align with the guidance written into the body of the Ruling. For example, Attachment A does not allow for repair/maintenance impacts to be captured although the body of the Ruling does. Attachment A also makes general references to existing policy rules even though these rules are in some respects superseded by HOPPS/AB 802 Guidance, thereby creating a conflict.

We recommend a more detailed review of Attachment A in line with the proposed AB 802 guidelines, and also a review of existing CPUC policy rules to note where exceptions are being made to prior rules.