BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

FILED
5-24-16
04:59 PM

Order Instituting Rulemaking Concerning Energy Efficiency Rolling Portfolios, Policies, Programs, Evaluation, and Related Issues.

Rulemaking 13-11-005
(Filed November 14, 2013)

JOINT REPLY COMMENTS OF THE OFFICE OF RATEPAYER ADVOCATES AND THE UTILITY REFORM NETWORK ON ADMINISTRATIVE LAW JUDGE'S RULING SEEKING COMMENT ON ENERGY EFFICIENCY BASELINE POLICY AND RELATED ISSUES

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May 24, 2016

I. INTRODUCTION

The Office of Ratepayer Advocates (ORA) and The Utility Reform Network (TURN) respectfully submit these joint reply comments pursuant to the April 21, 2016 *Assigned Law Judge's Ruling Seeking Comment on Energy Efficiency Baseline Policy and Related Issues* (Ruling), and the April 28, 2016 *E-Mail Ruling Attaching Corrected Version of Staff White Paper on Energy Efficiency Baseline and Extending Comment/Reply Deadlines*.

In the discussion below, ORA/TURN recommend the following:

- Parties fail to present compelling arguments for not returning to net energy efficiency goals;
- Program Administrators should strive to transition a substantial portion of their portfolios to Normalized Metered Energy Consumption (NMEC) programs in order to simplify baseline considerations, in accordance with Assembly Bill (AB) 802 and Senate Bill (SB) 350;
- The exceptions to existing conditions baselines in the White Paper are reasonable and based on available evidence, and party comments do not present compelling evidence to the contrary;
- ORA/TURN agree with NRDC that informal comments by parties provide a valuable source of recommendations and resources; and
- The Commission should reject proposals to quantify savings achievements based on forecasts of measure adoption or sectoral end-use intensity.

II. DISCUSSION

A. Parties fail to present compelling arguments for not returning to net energy efficiency goals

First, the California Energy Efficiency Industry Council (CEEIC) recommends that the Commission defer consideration of the return to net goals until there is a comprehensive review of the Commission's M&V structure and a comprehensive Commission approach to achieve SB 350 goals.[1] ORA/TURN agree with CEEIC that the Commission should be mindful of how new definitions and approaches to assessing and

[1] CEEIC, p. 39.

accounting for energy savings work together, and how they impact the Commission's ability to support the State's SB 350 goals related to EE. However, as explained in our opening comments, we reach a different conclusion than CEEIC regarding when to revert to setting goals on a net basis.[2]

In our view, setting net goals aligns with the overarching objective of AB 802 and SB 350 to increase the capture of *incremental* efficiency savings, meaning those savings that would not have otherwise happened. Net goals would serve as a tool to motivate the Program Administrators (PAs) to reduce free-ridership and maximize net portfolio impacts through their portfolio management. In PG&E's words, "Adopting net goals is perhaps the most simple and effective way to achieve our shared goals of delivering realized energy efficiency savings to the state cost effectively without necessitating a complex regulatory framework intended to discourage free rider participation [referring to Staff's proposed baseline exceptions framework]."[3] Indeed, from a GHG perspective, more harm than good could result from adopting policies to implement AB 802 that result in more energy savings being accounted for but without actually increasing incremental efficiency savings. Clever accounting cannot outsmart the physical realities of GHG emissions and climate change.

For these reasons, we recommend that the Commission adopt Staff's recommendation regarding net goals now, rather than delay this inquiry until some later time, as CEEIC suggests.

Second, SDG&E/SoCalGas argue that "maintaining gross EE goals establishes a simple and clear metric for PAs and implementers while cost-effectiveness requirements," which use adjusted benefits, net of free-ridership, "provide the necessary ratepayer protection."[4] SCE presents the same argument.[5] Yet, the Commission in

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[2] ORA/TURN, pp. 15-17.

[3] PG&E, p. 2. *See also* PG&E, p. 14.

[4] SDG&E/SoCalGas, p. 13.

Decision (D.)15-10-028 highlighted the troubling consequences of current policies:

> Energy savings goals continue to go up, while we are to some extent a victim of our own success: the low-hanging fruit has largely been harvested. Energy efficiency portfolios as we know them are on the verge of no longer being cost effective. Program Administrator expenditures on costs other than customer rebates appear excessive, as they have come to represent approximately half of portfolio expenditures. The rate of observed savings compared to forecast savings is distressingly low in some market sectors. *Ex ante* review continues to be a source of controversy.[6]

The Commission cannot reasonably assume that gross goals coupled with the existing cost-effectiveness requirements will avoid these outcomes going forward. In addition, putting an emphasis on net goals will encourage utility management to appropriately consider and factor in the incremental benefits of the various programs in the portfolio.

SDG&E/SoCalGas additionally warn, "Net goals will not capture the true impact of EE as a grid level resource."[7] SCE makes the same assertion.[8] But this statement is at odds with the fact that the CEC demand forecast captures and reflects the net impact of ratepayer-funded efficiency as a grid level resource.[9] The CEC's forecast incorporates all efficiency effects, including those of ratepayer-funded programs, codes and standards, and naturally occurring EE (including price and market effects), thereby stating efficiency as a grid level resource in the aggregate. For this reason, Staff points to the CEC's need for net EE program savings for their forecasts, not gross savings, in explaining the benefits of reverting to net goals.[10] Furthermore, as Staff notes, reverting

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[5] SCE, p. 18.

[6] D.15-10-028, p. 2.

[7] SDG&E/SoCalGas, p. 13.

[8] SCE, p. 18.

[9] SCE also notes that the CEC utilizes net, not gross, savings accomplishments and forecasts in the demand forecast and IEPR modeling process to avoid double counting. SCE pp. 18-19.

[10] White Paper, p. 32.

to net goals would reduce complexity within the Commission's own policies (most of which use net impacts, not gross) and across energy agencies.[11]

PG&E makes a troubling suggestion about using net goals that effectively would make them no different than the current approach of using gross goals. PG&E recommends that the net goals should be "recalibrated" based on portfolio-level evaluated net-to-gross results before the Commission evaluates the PAs' performance relative to goals on an ex post basis.[12] With this caveat, PG&E supports a return to net goals, as cited above. PG&E explains that this recalibration would "account for potential major discrepancies in the net-to-gross ratios used to establish those goals and the net-to-gross ratios used in the evaluation report."[13] More specifically, PG&E argues that "the goals should be retroactively adjusted to reflect the realistic net savings potential opportunity at the time the goals were set."[14] PG&E's "recalibration" proposal, if adopted, could lead to two perverse outcomes.

The first potential consequence of PG&E's proposal is that it would render meaningless "net" goals, leaving the Commission with "gross" goals. Staff proposes to use the "net" goals generated by the potentials and goals model, which means those goals would be derived from the application of net-to-gross ratios (NTG) embedded within the model to the gross goals. If those NTG inputs are mutable when the PA portfolio impacts are evaluated ex post, then the only constant from ex ante to ex post is the gross goal. For example, if the Commission were to determine ex post that a PA's portfolio had an evaluated NTG of 0.0 (meaning 100% free-ridership), and then simply flow that ex post NTG value back to the goals, the net goal would be 0 MWh (or other unit of energy savings). Of course this scenario is highly unlikely, but it demonstrates the problem with

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[11] White Paper, p. 32.

[12] PG&E, pp. 13-14.

[13] PG&E, p. 13.

[14] PG&E, p. 14.

literally tying the level of goals to the evaluated NTG.

The second perverse outcome is that the net goals themselves would not be hard goals that procurement planners and other energy agencies could reasonably rely on, but more accurately conceived of as "reactive goals," meaning goals that react to actual portfolio performance. This outcome runs afoul of the purpose of having efficiency goals: to communicate the Commission's expectations of portfolio achievements and to be used as a planning input for grid operators. In the case of a "net goal," the goal should reflect the actual net savings the Commission wants the PAs to deliver, in other words, the level of incremental EE savings that can reasonably be attributed to the portfolios, irrespective of how the PAs get to that goal (whether it is aligned or not with the estimated potential identified in the potential and goals study). As the Commission made clear in D.15-10-028, the EE goals for PA programs are not intended to serve as a specific template for how the PAs are to capture the efficiency savings indicated by the goals, even though the goals are derived from a bottoms-up potentials analysis.[15] Rather, while the Commission requires the PAs to meet the goals, the Commission does not require "adherence to any particular portfolio structure," that might track the goal development methodology.[16] PAs have the discretion to manage their portfolios so as to minimize risk, including the risk associated with ex post evaluation.

PG&E is singularly focused on one variable that might change one's assessment of the "realistic net savings potential opportunity at the time the goals were set." PG&E is concerned that ex post NTG results could contribute to observed deviations between the net goals and a PA's ex post performance. Because the goals, at least as currently derived, reflect a bottoms-up aggregation of measures across market sectors, ORA/TURN recognize that total potential could decline if the NTG associated with "Measure A" in the model were subsequently found to be too high. But other assumptions embodied in

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[15] D.15-10-028, p. 38.

[16] D.15-10-028, p. 38.

the potentials and goals study, and thus the gross and net goals, could also be in conflict with data available at the time the Commission seeks to compare a PA's ex post performance to the adopted net goals. And updating those other inputs could move the goals up – potentially offsetting the change related to NTG – or down.

For instance, in D.15-10-028, the Commission responded to party pleas that emerging technologies and innovative intervention strategies be given more value in the model being used to set 2016 goals. The Commission declined to anticipate what future data would reveal, reasoning as follows:

> When adequate data becomes available, the potential and goals study can and should integrate them. We will manage the inherent uncertainty around emerging technologies by updating goals regularly with the best available data. Thus, we can capture and reflect technological developments and trends, including the rate of technological improvement generally.[17]

Such data might exist when the Commission reviews a PA's performance vis-à-vis the goals. However, PG&E does not recommend that the EE potential – and thus goals – be retroactively updated to include potential from emerging technologies that is now known to have been in existence during the time period at issue, but that was not included in the potential and goals study.

> Moreover, as the Commission cogently explained in D.15-10-028:
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> There is always a lag between the end of a modelling exercise and Commission adoption of a model and/or its results. Real-world events often overtake a model's assumptions in that interregnum. This phenomenon presents an inherent challenge for much of what the Commission does in the EE space and in many other areas.
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> The long-term approach to this problem is the "bus stop" approach we adopt below for numerous technical aspects of EE work (e.g., DEER updates, EM&V, and, of course, goals). At a fixed point, the bus pulls up to the stop, and our analysis will go forward based on the information on hand at that time. Anything that shows up after the bus leaves the station will get picked up the next time the bus comes to the stop (i.e., annually for DEER

[17] D.15-10-028, pp. 24-25.

> and EM&V, biannually for goals). To do otherwise risks trapping us in an endless loop: a model is finished and pending adoption, an outside event leads to holding a decision adopting the model, and then a second outside event occurs while the revisions to address the first outside event are pending, taking us back to the start of the cycle. This is the sort of issue that the "bus stop" approach to many aspects of EE oversight will, we hope, minimize.[18]

For all of these reasons, ORA/TURN recommend that the Commission reject PG&E's request to revise the net potential (and thus the net goals) based on a single updated input assumption: NTG values.

B. Program Administrators should strive to transition a substantial portion of their portfolios to Normalized Metered Energy Consumption programs in order to simplify baseline considerations, in accordance with Assembly Bill 802 and Senate Bill 350

As ORA/TURN explained in our opening comments, determining the appropriate energy efficiency baseline for a given intervention is inextricably linked to counterfactual analysis. "Baselines are impossible to directly observe and measure; they are by definition something that did not actually happen, a counterfactual that must be constructed…to produce a reasonable proxy for what would have happened but never did."[19] The Staff White Paper does an admirable job in considering the wide-range of ratepayer-funded program activities and ORA/TURN generally support the baseline framework the White Paper develops. Other parties, however, expressed dissatisfaction with the White Paper framework in opening comments, in particular the purported complexity of the Staff proposal.[20]

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[18] D.15-10-028, p. 29 (responding to party comments about the model assumptions regarding the potential from building retrofits).

[19] ORA/TURN, p. 2.

[20] PG&E, SDG&E/SoCalGas, SoCalREN/LGSEC, and NAESCO all consider the Staff proposal too complex in one way or another.

1. Parties express concern about the complexity in the Staff White Paper but proposed changes may go too far in undermining accountability

PG&E warns that Staff's proposed baseline framework, as summarized in Figure 3 in the White Paper, "may require significant analysis to identify the appropriate baseline for any given condition."[21] PG&E attributes this complexity to the fact that Staff's proposal contains "effectively six dimensions (customer, measure, activity, deliver [sic], savings, and incentives) that must be considered when determining the appropriate baseline" and related requirements.[22] To illustrate the complexity it perceives, PG&E slices and dices Staff's Figure 3 and presents this "adaptation" in Appendix Tables PGE-1 and PGE-3.[23] PG&E proposes "a simpler exception strategy" than Staff's in Appendix Tables PGE-2 and PGE-4.[24] PG&E's exceptions strategy would apply exceptions "by no more than three dimensions including (1) delivery channel, (2) measure, and (3) savings determination methodology."[25] It appears that PG&E would designate all deemed measures as having a code baseline if replaced on burnout, or a dual baseline for early retirement, and all calculated measures as existing conditions baselines (ECB), without further ado.[26]

For instance, under PG&E's approach, all measures in the HVAC "technology category" and supporting the CPUC's HVAC end use would receive an ECB, irrespective of the customer sector or any other variable considered by Staff's more nuanced proposal.[27] For HVAC measures, Staff would variously assign a dual baseline, ECB, or

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[21] PG&E, pp. 6-7.

[22] PG&E, p. 7.

[23] PG&E, p. 7.

[24] PG&E, p. 7.

[25] PG&E, pp. 7-8.

[26] PG&E, Appendix A, Table PGE-4.

[27] PG&E, Appendix A, Table PGE-4.

not prejudge that determination but tie it to program delivery strategy.[28] Similarly, Staff does not prejudge the appropriate baseline for all process measures, given the substantially different facts that can be in play, while PG&E's approach would. Also, for plug-load appliance measures, PG&E would apply a code baseline for replacement on burnout and a dual baseline for early retirement for all customer sectors, while Staff would only apply these designations to the residential and commercial sectors. For refrigeration technologies, PG&E would assign a code baseline for replacement on burnout and a dual baseline for early retirement to some measures where Staff holds off, and PG&E would apply these baselines to commercial, industrial, and agricultural customers, while staff would only apply them to commercial customers.

SDG&E/SoCalGas similarly criticize Staff's proposal that some programs should define the baseline on a case-by-case basis, depending on the measures installed or industry standard practice, arguing that this approach would add "much more complexity to programs" and cause "confusion and frustration in the marketplace."[29]

Likewise, CEEIC encourages the Commission "to move as many of the programs and measures" classified by Staff as "Programs with Baseline Based on Measure" to the "Programs with Existing Conditions Baseline" box as possible.[30] CCEIC argues that the former category is "subject to too much interpretation, which causes delays, confusion and significant administrative costs for the CPUC, PAs, and implementers," and "most of these programs and measures merit the use of existing conditions."[31]

SCE, in contrast, supports Staff's proposed approach to exceptions. According to SCE:

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[28] PG&E, Appendix A, Table PGE-3; White Paper, pp. 29-30.

[29] SDG&E/SoCalGas, p. 3.

[30] CEEIC, p. 9.

[31] CEEIC, p. 9.

> Staff's recommendations follow a logical strategy to differentiate between influence factors and appropriately credit their energy impacts. The programs and measures proposed to require a code baseline are limited to scenarios in which new equipment must conform to existing energy regulations and existing CEC savings attribution processes.[32]

In evaluating the merits of Staff's proposed exceptions framework, the Commission must balance the desire for simplicity with the need for reasonable accuracy in the methods used to allocate energy savings to ratepayer-funded EE interventions. Like SCE, ORA/TURN appreciate Staff's logic. We find that Staff's framework for excluding from ECB those upgrades which are likely to occur and comply with code without an EE intervention is reasonably tailored to protecting ratepayers through accurate accounting, while achieving the overarching policy goal of promoting truly incremental, cost-effective energy savings (with the modifications discussed in our opening comments). To the extent Staff's framework creates complexity by reserving judgment in certain instances, or requiring PAs to evaluate "six dimensions" to determine the proper baseline, we believe that complexity is appropriate.

However, should data and information emerge in the future indicating that a less nuanced approach, such as PG&E's, would not unduly compromise the accuracy of attribution assumptions, ORA/TURN are willing to re-evaluate this issue. At present PG&E has not presented any such data or analysis. While SDG&E/SoCalGas at least offer their opinion that some chain retail and office spaces may not rigorously follow corporate requirements, and thus should not automatically be excluded from ECB for lighting fixtures and ballasts, as Staff proposes, they provide no documentation to support their opinion. As such, we urge the Commission to embrace Staff's prudent proposal.

We also note that CEEIC asks that the Commission clarify that the "repair eligible equipment" list will evolve as the Commission receives "sufficient evidence of

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[32] SCE, p. 2.

reparability" of additional measures.[33] CEEIC specifically asks that Staff be given the authority to update the "repair eligible equipment" list during the annual "bus stop" established by the Commission in D.15-10-028. We support CEEIC's suggested use of the "bus stop" for revising the "repair eligible equipment" list, as it enables timely, data-driven adjustments to the specific categorizations in Staff's proposed baseline framework.

2. NMEC utilizes direct comparisons over time and across customers, simplifying counterfactual analysis and baseline determination

To the extent that parties have serious concerns about the complexity of setting baselines according to the specific measure characteristics, market segment, and program design, the White Paper framework offers an attractive alternative: shifting portfolios to greater reliance on meter-based savings estimates drawing on the NMEC framework the Commission developed in the HOPPs ruling responsive to AB 802. NMEC and Randomized Control Trials (RCT) approaches have the advantage of using direct comparisons over time and/or across customers to isolate the energy savings attributable a program intervention.

In contrast to the complexity highlighted by parties, NMEC and RCT designs offer classificatory simplicity in terms of identifying the baseline. As ORA/TURN argued in our opening comments, the baseline for these programs is simply the energy use of the comparison case (in pre/post designs) or the comparison group (in quasi-experimental and RCT designs).[34] Designing an accurate and robust comparison requires substantial attention to and planning for evaluation, measurement, and verification at the front end. However, well-constructed comparisons avoid the complexity of measure-by-measure and case-by-case determinations of the counterfactual.

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[33] CEEIC, p. 10.

[34] ORA/TURN, p. 4.

Parties such as SoCalREN/LGSEC recommend reducing the complexity of baseline determination by using simpler approaches to identifying baselines, specifically NMEC.[35] ORA/TURN concur and recommend that PAs consider opportunities to transition an increasing portion of their portfolios to NMEC and RCT designs. The White Paper recommends lifting the current 10% cap on HOPPs programs[36] and no party has objected, meaning the PAs in their upcoming business filings will have ample opportunity to increase the representation of comparison-based program designs in their portfolios.

Even as PAs transition a larger proportion of their portfolios to NMEC and RCT designs, some types of efficiency interventions may not work in the comparison framework and yet still present opportunities for substantial savings. PAs should continue to pursue these opportunities, be they upstream/midstream approaches that intervene at the manufacturer/distributor/retailer levels or customizable calculated programs that incorporate the specificities and complexities of large-scale commercial or industrial facilities. There are trade-offs that result from pursuing efficiency opportunities that do not allow for comparison-based measurement. In the case of baselines, the trade-off is the complexity of determining the most reasonable and appropriate counter-factual in the absence of direct comparison-based evidence.

C. The exceptions to existing conditions baselines in the White Paper are reasonable and based on available evidence, and party comments do not present compelling evidence to the contrary

In opening comments, a number of parties took issue with the exceptions to existing conditions baselines that Staff developed in the White Paper. CEEIC argues that the section of the White Paper devoted to Programs with Baseline Based on Measure "is subject to too much interpretation" and "most of these programs and measures merit the

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[35] SoCalREN/LGSEC, p. 10.

[36] White Paper, p. 20.

use of existing conditions" including all industrial and agricultural programs.[37] NRDC disagrees with the "blanket exclusion of projects in the industrial and agricultural sectors. There are significant opportunities to bring industrial and agricultural equipment up to and beyond code" and argues that a "focused and evidence-based approach should be able to identify and target these opportunities."[38]

ORA/TURN agree with NRDC's recommendation that the Commission should take an evidence-based approach when considering baseline changes. What is striking is that parties who disagree with the determinations made by Staff in the White Paper largely fail to cite *any* evidence in their opening comments to support their contentions. For example, Staff notes that its exclusion of most industrial and agricultural custom projects is based on recent empirical Industrial Standard Practice (ISP) studies that show what technologies are standard equipment in a specific market segment and therefore form a reasonable expectation of what would be installed in the absence of program intervention.[39] CEEIC devotes an entire section of its opening comments to the inclusion of industrial and agricultural programs in programs utilizing existing conditions baselines, but fails to cite *any* studies or evidence to support the position that existing conditions is a reasonable baseline other than a 1996 Department of Energy strategy document.

A further example: the White Paper recommends an exclusion from existing conditions for retrofits for new tenant retail, chain commercial, and office space as a rule but allows for exceptions such as documentation of program influence that would qualify a project to use an existing conditions baseline. The Staff recommendation of a code/standard baseline is based on estimates of turnover in Commission codes and

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[37] CEEIC, p. 9.

[38] NRDC, p. 7.

[39] Commission staff has posted a number of measure-specific ISP studies on its website, *available* http://cpuc.ca.gov/General.aspx?id=4133.

standards impact studies and Navigant's potential analysis that accompanies the report.[40] Ecology Action disagrees with the staff recommendation and cites several anecdotes of chain retailers that did not upgrade their lighting systems upon taking over existing retail spaces.[41]

Ecology Action's anecdotes confirm the importance of the Staff's inclusion of qualifying exceptions; there may indeed be cases where the general trend in these market segments may not apply. However, systematic evidence collected in California shows that over 95% of commercial lighting equipment in medium and large business in the state already meets or exceeds state standards in terms of lamp efficiency.[42] Making all projects that do not trigger code in the new commercial tenant segment eligible for existing conditions baselines, as Ecology Action recommends, would be to make the rule based on an exception.[43] The Commission should instead accept the Staff recommendation that new tenant retail, chain commercial, and office space use a code baseline except where qualifying requirements for exceptions are met.

The exceptions to existing conditions baselines in the White Paper are generally reasonable and based on available evidence, while party comments generally fail to present compelling evidence to the contrary. The Commission should not make changes to the Staff proposal in the absence of compelling, empirical findings.

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[40] White Paper, Appendix D, *AB 802 Technical Analysis: Potential Savings Analysis*, pp. 66-67.

[41] Ecology Action, p. 3: "A specific local example is Whole Foods in Santa Cruz and Capitola, who took over the buildings from the previous tenant (Albertson's). These are clearly new commercial tenants moving into a new space, but the existing general lighting system was maintained. Similarly, when O'Reilly's Auto Parts purchased Kragen's and took over all their locations, the existing general lighting was also maintained."

[42] Shelton et al. *The First Generation of Thin is No Longer In*, conference paper at the 2015 International Energy Program Evaluation Conference, Long Beach CA. The paper draws on data from the Commission's *California Commercial Saturation Survey, 2010-2012*.

[43] Ecology Action, p. 4.

D. ORA/TURN agree with NRDC that informal comments by parties provide a valuable source of recommendations and resources

NRDC suggests that the informal comments submitted by parties prior to Staff's development of the White Paper "offered many useful and productive recommendations and resources," which may or may not have influenced Staff's conclusions in the White Paper.[44] To ensure that the Commission and all interested parties have access to NRDC's informal comments as part of the record of this proceeding, NRDC incorporated its informal comments as an attachment to its opening comments.[45] ORA/TURN agree with NRDC. Accordingly, we each incorporate our informal comments as Attachment A (ORA) and Attachment B (TURN) to these reply comments.[46]

E. The Commission should reject proposals to quantify savings achievements based on forecasts of measure adoption or sectoral end-use intensity

In its opening comments, NRDC advocates that the Commission implement a "dynamic baseline approach" as an "alternative evaluation methodology for assessing attribution" on a trial basis at a minimum.[47] As NRDC describes it, a dynamic baseline is a comparison of sequential forecasts of market adoption or end-use intensity over time in a particular sector, with any changes in the market attributed to the energy efficiency program.[48] After an initial forecast is made at time one, an energy efficiency program is implemented for a given period of time and then the forecast is updated at time two. Any difference in forecasted measure adoption or forecasted end-use energy intensity is

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[44] NRDC, p. 4.

[45] NRDC, p. 4.

[46] ORA and TURN separately prepared and submitted to Energy Division informal comments on February 10, 2016. We attach both sets of informal comments to these jointly filed reply comments because we believe the record should include both. However, the opinions and recommendations presented in each set of informal comments belong to the sponsoring party alone.

[47] NRDC, pp. 4-5.

[48] Id. at pp. 5-6.

attributed to the efficiency program as net savings.[49] ORA/TURN do not necessarily take issue with the possibility of testing any "dynamic baseline" methodology on a trial basis but NRDC's dynamic baseline proposal has two main flaws: it fails to account for the actual dynamics of changing markets and it bases savings estimates on predictions rather than actual market data.

NRDC's proposal would attribute any and all changes in the market adoption of a measure or in sectoral end-use energy intensity to energy efficiency programs regardless of the effectiveness of the programs in inducing customer adoption of efficiency measures, ignoring any other consequential changes such as technological improvements, price reductions, and other non-program influences that were not included in the initial forecast.[50] This is the opposite of a dynamic analysis that would account for not just the contribution of efficiency programs but all other forces and changes in the market.[51] This is particularly troubling given the low levels of attribution that the Commission's evaluation studies regularly find.[52] NRDC's proposal to attribute all savings to efficiency programs also runs counter to the state's strategy of pursuing both program and non-program sources of energy efficiency.[53]

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[49] Id. at pp. 6-7.

[50] NRDC, p. 6.

[51] For instance, TURN has previously discussed the use of a dynamic baseline for certain applications in California, based on TURN's understanding of what has been under development in the Pacific Northwest, but TURN's conception of a dynamic baseline is distinctly different from NRDC's use of the term. TURN pointed to the use of a dynamic baseline that would track over time what a building's energy and load requirements would have been but for energy efficiency and other distributed resources through a series of algorithms that define the building's energy and load requirements by structure, function, equipment, operations, occupancy, and weather, where those algorithms are dynamic over time, reflecting changes in the building's energy math, including incremental advances from codes and standards changes and business refurbishment cycles. *See, e.g.,* Comments of TURN on Phase II Workshop 3, April 13, 2015, pp. 18-20 (proposing Commercial Pay-for-Performance Pilot).

[52] Portfolio net savings estimates for electric and gas efficiency measures are only 64% and 54% of gross savings estimates, respectively. See *2010-2012 Energy Efficiency Annual Progress Evaluation Report*, published March 2015, p. 13.

[53] The CEC's Existing Building Energy Efficiency Action Plan relies heavily on non-program strategies centered on the increasing availability of energy data, private capital market financing, and real estate

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NRDC's proposal would base savings estimates entirely on forecasting methods that are unproven and/or unreliable at the level of specificity required. In particular, NRDC's opening comments use CEC demand forecasts of residential lighting use as an example of the dynamic baseline it would like the Commission to adopt. However, in the White Paper the CEC notes that "the demand forecast is by nature not necessarily precise for energy savings resulting from specific measures, programs, or actions."[54] The imprecision of the demand forecast would be compounded if program savings were calculated using a comparison of different vintages of the demand forecast over time. Under such a scenario, it is not unlikely that the main driver in savings estimates would be forecast modelling choices rather than actual program accomplishments.

The Commission should reject NRDC's proposal at this time. In the absence of evidence showing that dynamic baselines can reliably estimate and attribute net savings, the Commission should not adopt it as an approved savings estimation method.[55]

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market valuation of energy efficiency.

[54] White Paper, Appendix B, p. 42.

[55] The White Paper (p. 33) encouraged parties to submit "more research to describe these [dynamic baseline] approaches, white example of where they have been successfully used." Unfortunately, NRDC's opening comments contain only hypothetical examples and no references to actual studies utilizing dynamic baselines.

III. CONCLUSION

For the foregoing reasons, ORA/TURN respectfully submit that the Commission should adopt the recommendations contained herein.

Respectfully submitted,

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May 24, 2016