

Required Corrections to Measure Level Input Parameters Identified by Commission Staff per D.14-10-046 Order Paragraph 16

3 November 2014

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I. Background on Direction to Commission Staff and Program Administrators

Decision 14-10-046 in Ordering Paragraph (OP) 16 provided the following direction to Commission staff and Program Administrators (PAs):

“16. Pacific Gas and Electric Company, San Diego Gas and Electric Company, Southern California Edison Company and Marin Clean Energy shall file a Tier 2 Advice Letter within 60 days of this Decision reflecting the budget adjustments adopted herein, including recalculated Total Resource Cost and Program Administrator Cost tests that exceed a 1.0 threshold for 2015. This filing shall include updates to the contents of all files contained [in] appendices A, B, C, and D of their respective 2015 funding proposals that reflect the budget and programmatic changes adopted herein as well as corrections to measure level inputs identified by Commission staff review as discussed herein. Commission staff shall provide a list of all such required measure input corrections via a notice to the service list within five days of the mailing date of this Decision. “

The discussion in the Decision text on measure level detail is referring to the input parameters that were provided in the cost-effectiveness (CE) calculators within Appendix D of the PAs 2015 funding proposals. Consistent with the direction provided in D.14-10-046 OP 16, staff focused on parameter errors that would have significant impacts on portfolio cost effectiveness. The results of this high-level review are provided in Section II of this document. It is understood that the 2015 measure savings estimates do not yet fully reflect the most recent DEER or codes, standards, and regulation updates; those final values will come later with the PA workpaper update and custom measure/project submissions which are subject to staff review and approval.

Examples of Parameter Issues

Before turning to specific corrections, we first review examples of parameter issues or differences between the PAs as mentioned in the text of the Decision.

In Section 3.3, “Proposition 39 (Schools)”, on page 71 there is a discussion of what we referred to as typical mistakes:

“In short, we did not find anything in the 2015 SCE filing that looks very different from 2013-2014. The submittals appear to follow current policy, complete with typical mistakes or incorrect savings values, but not with baseline or NTG ratio differences.⁷²

Upon closer examination of measure detail, we find that PG&E energy savings values for major lighting measures in their schools program are 1.5-2 times what is in *ex ante* review dispositions

for 2013-2014 even using pre-existing baselines. Correcting these will lower their TRC's. The \$/kWh incentive cost per savings values between PG&E and SCE are very different, a fact that is unexpected and indicates possible issues with consistency across IOUs (some variation would be expected due to measure mix differences, but not on the order observed here).

PAs should double-check for and correct any such errors. We direct (again) PAs to use the latest-available DEER values, and to ensure that their implementers do the same."

Footnote ⁷² "Some increase in incentives may already be "baked in" to SCE and PG&E's filings. As already discussed above, SCE appears to already be using a .85 NTG ratio for school projects. As to PG&E, we note that generally the K-12 and CCC TRC's are lower than the other portfolio components of an equivalent type of measure content (commercial lighting highest, commercial HVAC next, then commercial refrigeration and other miscellaneous measure types). The exception is the PG&E CCC program which has some problems with the *ex ante* measure costs being 1.5-2x too low as discussed in the next body paragraph. Also, the incentive rates (\$/kWh and \$/therm incentive costs in tables) that PG&E pays to customers are much higher for schools than for other programs. So it seems PG&E has already increased incentives – this appears to hold in the 2013 claims as well."

In Section 3.4, "Locational Targeting", on page 82 there is a discussion relating to early retirement, remaining useful life, and industry standard practice PA proposals that are rejected.

"SCE also proposes allowing more deemed and custom early retirement measures in the J-S region by:

1. Defining "preponderance of evidence;"
2. Posting and freezing Industry Standard Practice studies;
3. Allowing PAs to propose remaining useful life; and
4. Removing the 20 year EUL cap.

All four of these items would presumably lead to lower baselines and/or longer lives and so greater cost effectiveness for particular measures and associated projects within the targeted area.

We decline to adopt the first three of these changes. The Policy Manual disclaims at length on the meaning of "preponderance of the evidence." Putting further gloss on the phrase will not assist parties or Commission Staff in interpreting it. Conversely, posting and freezing industry standard rules risks ossification of the values (as has been alleged to be a problem with DEER; see above). We decline to turn over to PAs authority to set remaining useful life values. All of these determinations are without prejudice to reevaluation of these requests later in this proceeding or in a subsequent proceeding."

In Section 3.6, "Home Upgrade Programs (Home Upgrade and Advanced Home Upgrade)", on page 95 it is noted that "upgrades actually undertaken yield far lower savings than forecast". Although there are not specific parameters mentioned, staff understood this concern and reviewed the relevant PA CE measure parameters.

In Section 3.9, on page 108, “Total PA Budgets, Plus Additional Issues Not Previously Discussed”, there is some added discussion of the expected updated content of the compliance filing directed by OP 16.

“The IOUs and MCE shall submit updated cost calculators. The updated cost calculators shall include updates to the contents of all files contained appendices A, B, C, and D of the IOUs’ and MCE’s respective 2015 funding proposals reflecting the budget and programmatic direction in this Decision. Those changes include, but are not limited to:

- Changes to measure input values where Unit Energy Savings values are higher than ex ante review and DEER support.⁹³”

Footnote ⁹³ “Commission staff shall provide a list of all such required measure input corrections via a notice to the service list within five days of the mailing date of this Decision.”

Continuing this discussion on page 109 in the same section, the need for the compliance filing and PA reporting values to be updated or corrected is further elaborated in the discussion of the relatively low TRC values in the PA proposals.

“Certainly we would prefer to see values of 1.25 or greater, but in view of the calculation errors we have identified and are requiring the IOUs to fix we see less need for the “hedge” than we previously did, and are more concerned about unanticipated consequences of fund-shifting to meet a higher TRC/PAC in response to corrections to calculations.”

Overall, the above discussion in the text guided staff in their review so as to include four major areas of focus:

1. Appropriate measure costs and incentive values such that the TRC participant net cost is reasonable
2. Appropriate use and specification of early retirement measures
3. Use of appropriate Net-to-Gross ratio (NTG) values
4. Use of appropriate Unit Energy Savings (UES) values

The following section provides an overview of the results of staff’s review.

II. Fixes required for Program Administrators 2015 measure level parameter values

Staff reviewed the measure level detail contained in the cost-effectiveness calculators included as Appendix D of the PA 2015 funding proposals. A list of measures requiring fixes to measure level input parameters in each of the four issue categories identified in section I above was compiled by staff. A workbook is provided for each PA with up to five tabs as follows:

1. <PA initials> PC – a list of measures with measure costs that are not appropriate
2. <PA initials> ER – a list of measures with dual baseline parameters that are not appropriate
3. <PA initials> NTG – a list of measures with net-to-gross ratio values that are not appropriate
4. <PA initials> UES – a list of measures with unit energy savings (kWh, kW, therm) that are not appropriate
5. <PA initials> ALL – a list of all measures as extracted from the PA filed CE calculators

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Each of the tabs contains one or more rows with one measure per row. The complete set of measure parameters as well as additional cost effectiveness calculated parameters are supplied on each row. On the NTG and UES tabs there are comments on each row indicating the nature of the problems as discussed below. The PC and ER tabs have an indication in the far right columns of the cost or ER parameter issues as discussed below. In the table below is a summary of the measure counts on each tab for each PA.

	PC	ER	NTG	UES	ALL
PG&E	1046	-	1990	224	5321
SCE	841	2057	1298	162	5058
SDG&E	14	6	127	48	758
SCG	4	-	35	-	307
MCE (MEA)	2	-	25	-	67
BayRen	-	2	-	-	16
SoCalREN	-	10	8	1	59

Due to the size of the workbooks they cannot be included as attachments and thus are posted at the following locations:

Download page for this and all other documents:

<ftp://deeresources.com/E3CostEffectivenessCalculators/2015IOUsubmissions/>

This memo:

ftp://deeresources.com/E3CostEffectivenessCalculators/2015IOUsubmissions/RequiredCorrectionsPerD1410046OrderParagraph16_2014-11-03.pdf

PG&E workbook:

ftp://deeresources.com/E3CostEffectivenessCalculators/2015IOUsubmissions/2015_Review_MeasuresAdjCost+ER+NTG+UES_2014-10-31-PGE.xlsx

SCE workbook:

ftp://deeresources.com/E3CostEffectivenessCalculators/2015IOUsubmissions/2015_Review_MeasuresAdjCost+ER+NTG+UES_2014-10-31-SCE.xlsx

SDG&E workbook:

ftp://deeresources.com/E3CostEffectivenessCalculators/2015IOUsubmissions/2015_Review_MeasuresAdjCost+ER+NTG+UES_2014-10-31-SDGE.xlsx

SCG workbook:

ftp://deeresources.com/E3CostEffectivenessCalculators/2015IOUsubmissions/2015_Review_MeasuresAdjCost+ER+NTG+UES_2014-10-31-SCG.xlsx

MCE (MEA) workbook:

ftp://deeresources.com/E3CostEffectivenessCalculators/2015IOUsubmissions/2015_Review_MeasuresAdjCost+ER+NTG+UES_2014-10-31-MEA.xlsx

BayREN workbook:

ftp://deeresources.com/E3CostEffectivenessCalculators/2015IOUsubmissions/2015_Review_MeasuresA_djCost+ER+NTG+UES_2014-10-31-BAYREN.xlsx

SoCalREN workbook:

ftp://deeresources.com/E3CostEffectivenessCalculators/2015IOUsubmissions/2015_Review_MeasuresA_djCost+ER+NTG+UES_2014-10-31-SCREN.xlsx

Combined workbook with all the above:

ftp://deeresources.com/E3CostEffectivenessCalculators/2015IOUsubmissions/2015_Review_MeasuresA_djCost+ER+NTG+UES_2014-10-31-v1.xlsx

Below is a summary of the each of the four categories of issues that require fixing in the PA ex ante submissions as found in their 2015 estimated measure details.

1. **Comparison of Measure, Net and Gross Costs, and Incentives:** Staff reviewed all submitted cost information and identified issues described below:
 - 1.1. Measure cost is less than the rebate cost: As discussed in more detail in Section 1 of the appendix, any measures where the measure cost is less than the rebate is expected to be a very rare occurrence and one that requires explanation and justification for staff review and approval. However, staff's opinion is that all measures having this problem appear to be errors that require correction. Additionally, as noted below and in the appendix Section 1, the "rebates to customer" input can only be utilized for cash payments or bill credits to the customer, not payments to others for their services or materials.
 - 1.1.1. *Measure cost is zero:* Measures in this category have either a missing cost for the installed measure or appear to incorrectly assume services (such as design "incentive," or maintenance contract sign-up payments) with no associated cost incurred by the customer. Other examples may be "adders" or "kickers" related to other measures; these must be correctly included in the incentive listed for the measures to which they apply.
 - 1.1.2. *Measure cost is less than the incentive:* These measures include measure costs but the measure cost is less than the incentive. This is likely due to the use of out-of-date measure costs (such as those included with DEER 2005) while the PA established incentives are based on the current market cost differential and thus has some information available on current market costs. These measures must be revised to include appropriate current market measure costs estimates. If no estimates are readily available staff expects these values to be estimated at twice the incentive or greater.
 - 1.2. Incentive incorrectly specified as rebate: Many costs associated with direct install, upstream, midstream, and direct install delivery mechanisms, as well as fees paid to implementers or other entities, have been incorrectly specified as rebates to customers. These must be revised to reflect the correct classification as incentives to others, direct install costs or non-incentive direct implementation administrator costs. Additionally, some direct install measures are specified with a measure cost of zero or a value less than the listed incentive. For direct install measures the measure cost must be at least the direct install cost plus any customer co-payment. Payments for services related to measure installation must include the service cost

which cannot be less than the payment made. Payments for services not related to measure installation are not to be classified as incentives but rather as non-incentive direct implementation (NIDI) costs.

2. **Review for Early Retirement Measures:** Staff reviewed all measures for incorrect early retirement (ER) specifications or areas where further supporting documentation and justification is required.
 - 2.1. Measures with high remaining useful life: As discussed in appendix Section 3, any measures where the remaining useful life (RUL) of the pre-existing equipment exceeds one-third of the expected useful life (EUL) of that equipment requires justification with supporting documentation. Typically the RUL of the pre-existing equipment is equal to or less than the EUL of the replacement equipment; for this reason staff is using the EUL provided by PAs in the measure detail as representative of the EUL of the pre-existing equipment for this error check. Per D.14-10-046, a PA can propose for staff review and approval EULs of pre-existing equipment that exceed 20 years and then use that value when estimating RULs; however no such elevated EUL values are available for use.
 - 2.2. Measures with incremental savings but zero incremental cost: Any measures with incremental savings specified are expected to also have incremental costs provided. A measure with incremental savings without an incremental cost is likely a mistake requiring correction. Alternatively, zero incremental cost implies there is no incremental cost required to obtain the incremental savings in which case staff would not approve the measure without specific justification as this indicates that no incentive is normally required. Staff has identified those measures with missing incremental costs.
 - 2.3. Measures with no incremental savings and no incremental cost: Measures that have no incremental savings and no incremental cost imply that these are “to code” measures which require supporting justification and approval. As discussed in appendix Section 3, to-code measures are not approved activities except when specifically authorized by the Commission.
3. **Net-to-Gross Ratio Review:** Staff reviewed assigned net-to-gross ratio (NTG) values and identified assignments that appear to be in error or require additional supporting documentation and justification for review and approval.
 - 3.1. Possible error in NTG assignment: There are some measures assigned a NTG value of one (1). Some of the NTG=1 values are clearly mistakes. Examples include a pool pump retailer incentive that should be assigned the default, or a “design team” incentive that should have a cost and the default NTG or be included as a non-incentive direct implementation cost. Other measures appear to simply have incorrect NTG assignments. For example, several non-lighting measures appear to be assigned NTG values that are only applicable for lighting measures for direct install to hard-to-reach customers (0.89 for T8 linear fluorescent and 0.8 for commercial CFLs). These appear to be errors that require substitution of the correct NTG assignments.
 - 3.2. Use of upstream NTG values: Some NTG assignments appear to be values that can only represent upstream incentive delivery mechanisms (such as the commercial package HVAC),

but the program and measure information do not clearly indicate these are upstream programs. These measures should be clarified as entirely upstream, and, if not, NTG values should be adjusted to the default or otherwise applicable and appropriate values.

- 3.3. Use of direct install into hard-to-reach customer default: It appears that all PAs are assigning NTG values from the category of “direct install to hard-to-reach customers” (DI/HTR) for local government (LGP) and third-party (3P) programs. *This NTG designation is NOT for activities that are either direct install OR to hard-to-reach customer, but instead they are only for direct install activities into hard-to-reach customer facilities/homes.* As described in appendix Section 2, there are specific criteria that must be met for customers to be considered hard-to-reach that exclude most customers in major metropolitan areas as well as businesses over a very small size. Instead of the DI/HTR customer default (0.89 for T8 linear fluorescent, 0.80 for commercial CFL, and 0.85 for all other technologies) staff expects the use of more appropriate defaults (most commonly 0.60 to 0.70).
- 3.4. Use of Emerging Technology default: It appears that all PAs are assigning the Emerging Technology (ET) default of 0.85 to all LED measures. It is not clear of the basis for this assignment. Since many LED measures appear in 3P or LGP programs, these may also be assigned the DI/HTR defaults as described above. As directed in D.12-05-015 and discussed in detail in appendix Section 2, PAs must propose and request approval from staff for the use of the ET default. Additionally, D.12-05-015 requires that, in order for the ET default to be used, the measure inclusion into the portfolio must be directly attributable to the emerging technology program activity. Staff requires PAs to present a list of all measures proposed for ET NTG treatment which includes a summary of the evidence (including specific references that support the request) for attribution of portfolio inclusion to the ET programs. Simply including the ET NTG designation in a workpaper or other document, with no documentation to support the ET program influence claim, is not sufficient.
- 3.5. NTG default for recent measures: The DEER “default” NTG value of 0.7 is available to be assigned to measures that have not been in the same program for at least two years. Staff has reviewed previous program cycle workpapers and claims for measures having this NTG assignment and believe that this NTG value has been assigned incorrectly for a number of measures. Staff believes that the generic defaults of 0.55 for the residential sector and 0.6 for other sectors is the correct assignment for these cases and requires this correction.
- 3.6. Use of NTG value that is not in DEER: Values that appear to be from earlier versions of DEER, retired by Commission decision, were used to assign NTG values for Savings-By-Design (SBD) new construction programs. Some SBD records were assigned custom project values of 0.81 and 0.82, however there are no such values in 2011 DEER. Staff expects the correct values should be assigned from the current list DEER NTG values for custom projects, primarily the value of 0.60.
- 3.7. Use of newly authorized NTG value: D.14-10-046 in OP 9 authorized the use of a NTG value of 0.85 for “all projects undertaken by schools, and for programs targeting specific transmission, distribution, or generation constrained areas (other than bottoming-cycle combined heat and power projects)”. The referenced OP also specifies that all “K-12 and community college energy efficiency projects, not just those funded by Proposition 39, are eligible for the treatment

specified". Staff requires that PA submissions explicitly identify that this "K-12/CCC School NTG" value is being use for any measure and ensure that such use follows direction and is not applied for facility projects not located at K-12 or CCC schools.

4. UES values not appropriate

4.1. Improper baseline specifications for T5/T5 high bay measures: Staff's review of the 2013 and 2015 measure details and the previously submitted relevant PA workpapers identified a group of T5 and high-bay linear fluorescent measures replacing high intensity discharge (HID) fixtures that utilized inappropriate baseline technologies. In some cases, replace on burnout (ROB) values were claimed but the pre-existing technologies did not meet DEER requirements for code baselines. These measures shall be corrected using the required DEER specified code baselines; early retirement implementation of these measures may be used when ER requirements are met. Staff does not accept that evidence requirements for early retirement have been met for any downstream rebate activity other than direct install activities. Based on staff's review of workpapers for these measures submitted for the 2013-2014 cycle, proposed savings for these measures are overestimated by as much as 100%.

4.2. To-code measures that are not approved or authorized: In addition to the discussion below, more details on policy related to to-code measures requiring specific Commission approval is found in appendix Section 3.

4.2.1. *Code minimum small package HVAC measures:* All of the electric utilities have measures described as SEER 14 or SEER 14.5 package and split air conditioners and heat pumps. As of January 1, 2015, the minimum state and federal requirement changes to SEER 14, meaning that SEER 14 (and SEER 14.5) measures are considered "to code" measures and should not appear in the portfolio after 1 Jan 2015. Staff has concerns that incentives continue to be offered for EER and SEER rated HVAC equipment with SEER/EER/IEER rating that minimally exceed code; for example an EER or SEER that is less than 1.5-2 above the code requirement. These measures offer minimal typical customer savings above code and due to equipment component variations and California climate variations some installations of these marginally above code rated measures will result in performance equal to or below typical code compliant measures. Staff urges the PAs to include measure specifications that will ensure all installations will provide savings above (and also more than just marginally above) typical code compliant choices.

4.2.2. *Standard practice linear fluorescent measures:* Based upon the measure name used (specific workpaper or measure code detail were not supplied as expected in the filings), some measures appear to be retrofits to linear fluorescent technologies that are identical to the DEER code baseline as well as standard practice identified in recent evaluation studies such as the Commercial Market Share Tracking and Commercial Downstream Lighting studies. These to-code measures are not authorized and should be removed from programs in favor of more efficient technologies; past and current ROB/NR implementation of these measures should have zero savings and past and current ER implementations have zero savings in the post-RUL period.

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4.2.3. *Standard practice HID measures:* There are groups of measures described as “Pulse Start Metal Halide” technologies. Unless these measures include high efficiency electronic ballasts, these measures are identical to the DEER code baseline as well as standard practice identified in recent evaluation studies such as the Commercial Market Share Tracking and Commercial Downstream Lighting studies. These to-code measures are not authorized and should be removed from programs in favor of more efficient technologies; past and current ROB/NR implementation of these measures should have zero savings and past and current ER implementations have zero savings in the post-RUL period.

Appendix: Policy Direction Relating to Measure and Project Parameters

The purpose of this appendix is to provide the background relating to the development and use of measures parameters to be used in developing, implementing and reporting energy efficiency portfolio activities. The measure parameters include all those used in calculating the Total Resource Cost (TRC) and Program Administrators Cost (PAC) ratios of benefits over costs. These parameters include energy savings, net-to-gross ratios, effective and remaining useful life, program costs including rebates or other incentives, and measures costs.

1. Measure cost direction

1.1. Inclusion of all costs

Ensuring that all costs and revenue requirements are included into the TRC cost has been a continuous Commission policy directive.

D.08-01-006 at 8:

“There has been a long history of Commission effort to uphold the integrity of the TRC formulation by ensuring a correct accounting of all costs and all benefits.¹¹ When calculating this summation of costs for various program delivery designs, care must be taken to simultaneously ensure that all costs are counted but that no costs are double counted. This missing or double counting issue can be a problem with any of the terms of this formula.”

Footnote ¹¹ “See for example, D.92-09-080, 45 CPUC 2d, p. 569, which is reproduced in Attachment 4 to D.05-04-051: ‘Total resource costs represents the total cost of obtaining the [demand-side management] program as a utility resource, and include both the program participants’ out-of-pocket costs (i.e., customer contribution) and the utility’s revenue requirement costs (e.g., rebates, administrative expense).’ ”

Additionally, correctly classifying PA implementation costs has also been a subject of Commission policy directives. “Incentives” paid to parties other than the participating customer must be correctly classified in categories other than the rebates to customer category; this includes the categories of “direct installation,” “incentives to others,” and “non-incentive direct implementation” categories.

D.08-01-006 at 10:

In order to define other TRC terms, it is necessary to describe the “INC” or “incentive” term that is used in the SPM definition of the TRC test. As we discussed in D.06-06-063, the SPM defines the INC term very narrowly as the type of incentive that can be treated as a transfer payment in the SPM TRC formulation. The definition of the INC term, as set forth in the SPM, is restricted to “dollar benefits” such as rebates or rate incentives (monthly bill credits) paid by the sponsoring utility to the customers participating in the program:

“Some difference of opinion exists as to what should be called an incentive. The term can be interpreted broadly to include almost anything. Direct rebates, interest payment

subsidies, and even energy audits can be called incentives. Operationally, it is necessary to restrict the term to include only dollar benefits such as rebates or rate incentives (monthly bill credits). Information and services such as audits are not considered incentives for the purposes of these tests. If the incentive is to offset a specific participant cost, as in a rebate-type incentive, the full customer cost (before the rebate) must be included in the PCt term.”¹⁴

Footnote¹⁴ “2001 SPM, p. 11, footnote 3.”

1.2. Correct use of full, incremental and discounted full plus incremental

D.12-05-015 at 349:

“The measure or project cost utilized in an early-retirement case is the full cost incurred to install the new high-efficiency measure or project, reduced by the net present value of the full cost that would have been incurred to install the standard efficiency second baseline equipment at the end of the remaining useful-life period. Thus, the early-retirement cost is higher than the incremental cost used in a replace-on-burnout or normal-replacement case, only by the time value of the dollar amount of the standard equipment full installed cost, using our adopted cost-effectiveness discount rate to calculate that time valuation.”

1.3. Incentives expected to be less than measure cost unless justification is provided for review and approval

D.12-05-015 at 349:

“As with all measures, our policy expects that incentives offered for early retirement will not exceed the actual early retirement cost.”⁴⁹⁵

Footnote⁴⁹⁵ “EPMv4, Rule IV.4”

2. Net-to-Gross direction

2.1. DEER and staff dispositions are the only source of NTG values

DEER contain NTG values for specific measures, groups of measures and/or delivery mechanisms. DEER also contains several “default” NTG values which are to be used when no other measure or activity specific DEER NTG value is provided. Between its measure and activity specific plus default NTG values DEER provides complete coverage for all measures in all activities. Due to this complete coverage there is no merit to any argument that a PA may present that there was no current DEER NTG value that was directed to be applied to any measure activity.

There is no authorization in any Decision or Ruling for PAs to develop their own NTG values. DEER and staff disposition on PA workpapers and custom projects are the only authorized source of NTG values. PAs utilizing their own developed or preferred values for NTG in place of DEER or staff disposition values is not acceptable; such unauthorized values shall be considered errors and are the PAs responsibility to correct such errors whether specifically identified by a staff review or not.

Decisions have instructed DEER to include specific NTG values for measures and activities not previously available. These include an Energy Upgrade California (EUC) 0.85 value, and Emerging Technologies (ET) 0.85 or greater value discussed in the next section in more detail.

D.12-05-015 at 169:

“Consistent with the commitment we are making to this program, we direct Commission Staff to use a default Net-to-Gross ratio of 0.85 for Energy Upgrade California custom projects.”

D.12-05-015 at 328:

“As TURN suggests, the Commission did not envision the ex ante update process, for either DEER or non-DEER values, to be a negotiation between Commission Staff and the utilities or other parties. We require that Staff seek input and review from parties on all ex ante values. However, Commission Staff should recommend ex ante values that reflect the best estimate of expected real portfolio accomplishments based upon the most appropriate and accurate data available.

We disagree with comments that DEER should be based only upon evaluation methods and results. As stated above, DEER falls under Commission Staff’s broad responsibilities to undertake research and analysis in support of policy oversight.⁴⁵⁷ To perform these research and analysis functions we have given Commission Staff the flexibility to obtain input and perform research as it deems appropriate.⁴⁵⁸ Ex ante values used for planning must be the best estimates of the likely accomplishments of the utilities’ proposed portfolios.”

Footnotes ⁴⁵⁷ “D.05-01-055, Section 5.3.2 at 128.”

⁴⁵⁸ “Ibid. at 130.”

D.12-05-015 at 331:

“The utilities will not have the option to replace DEER assumptions and values with their preferred values unless the Commission Staff agrees with their proposal for such replacements.”

D.12-05-015 at 332:

“We direct Commission Staff and the utilities to work together to identify each of the values that have been updated and develop a clear procedure for applying the updates to relevant non-DEER workpapers. The procedure must follow our intent to utilize DEER assumptions and values in non-DEER workpapers, but we provide Commission Staff flexibility to interpret the details of this requirement in a manner it finds reasonable and practical.”

D.12-05-015 at 338:

“We agree with comments that point out that non-DEER ex ante values will often depend upon DEER. We expect the development of non-DEER values to utilize DEER assumptions, methods and data whenever appropriate.”

D.12-05-015 at 342:

“The utilities are directed to ensure that custom measure and project calculation tools or methods are consistent with the adopted DEER values and assumptions as applicable.”

D.12-05-015 at 344:

“Our adopted custom measure and project review process was conceived both to help motivate improvements to the ex ante values for those projects and to motivate the utilities to respond to Commission Staff reviews with appropriate program design changes. We expect the utilities to respond to Commission Staff reviews by taking steps to change the program activities to improve both gross and net results. To that end, we direct Commission Staff to conduct Net-to-Gross (net of free ridership) screenings as part of its ex ante project reviews process.”

D.12-05-015 OP:

“44. Commission Staff shall use a Database for Energy Efficient Resources default Net-to-Gross ratio of 0.85 as a floor for Energy Upgrade California custom projects.”

D.14-10-046 OP 9

“9. For all projects undertaken by schools, and for programs targeting specific transmission, distribution, or generation constrained areas (other than bottoming-cycle combined heat and power projects), the following rules shall apply:

a) For purposes of determining net savings, default ex ante lockdown rules apply, except that a Net-to-Gross ratio of .85 (before spillover effects) is “locked down” for all projects.

[b) though d) omitted]

e) All K-12 and community college energy efficiency projects, not just those funded by Proposition 39, are eligible for the treatment specified in subsections (a)-(d) above.”

2.2. Use of ET NTG

The 0.85 values for NTG can only be utilized for measures added as a direct result of ET activities and staff has authority to accept or reject any PA proposed use of this NTG classification as well as. An explicit burden of proof of ET program attribution for the measure appearing in the PA portfolio has been placed upon the PA; the mere statement that a measure is ET eligible in a workpaper or use of the NTG in a claim is insufficient, is considered an error and shall be considered rejected with or without and explicit review by staff. The PA must show the relevant ET program substantive activities around the specific measures as well as demonstrate the ET program activities preceded the introduction of the measure into the portfolio and trace the ET program activity influence that lead to the introduction of the measure.

D.12-05-015 at 62:

“We also agree with comments regarding Net-to-Gross values to use for measures added to the utility portfolios as a direct result of Emerging Technology Program activities (or Emerging Technologies measures). We direct Commission Staff to assign a new Net-to-Gross category for Emerging Technology measures with a default Net-to-Gross value of 0.85. The existing non-DEER

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measure submission process shall also cover Emerging Technology measures, and the utilities may request, in their non-DEER Emerging Technologies measure workpaper submissions, that measure be assigned an Net-to-Gross value at or above the 0.85 default value.

Commission Staff shall have the authority to accept or reject a utility Emerging Technology measure classification and to set any Emerging Technology measure's Net-to-Gross at a higher value than the default value as it deems appropriate."

D.12-05-015 OPs:

"14. Commission Staff shall assign a new Net-to-Gross category for Emerging Technology measures with a default Net-to-Gross value of 0.85.

15. Commission Staff shall accept or reject a proposed Emerging Technology measure classification and set any Emerging Technology measure's Net-to-Gross ratio at a higher value than the default value as it deems appropriate."

2.3. Use of DI into HTR NTG

The DEER NTG tables contain alternate "default" values for activities that are for "direct install hard-to-reach only". Similarly, the DEER 2011 report listed these 0.85 values as "Direct Install for Hard to Reach markets only". These are not to be interpreted as activities that are just direct install or just into hard to reach, but rather activities that are directly installing measures into a hard-to-reach customer facility.

There will be separate issues when defining hard-to-reach for residential versus small business customers. However, there are some common barriers for both including:

Those customers who do not have easy access to program information or generally do not participate in energy efficiency programs due to a combination of language, business size, geographic, and lease (split incentive) barriers. These barriers to consider include:

Language – Primary language spoken is other than English, and/or

Geographic – Businesses in areas other than the United States Office of Management and Budget (OMB) Combined Statistical Areas (CSA) of the San Francisco Bay Area , the Greater Los Angeles Area and the Greater Sacramento Area or the OMB metropolitan statistical areas or San Diego County

Notes on OMB CSA designations:

The OMB has designated a 12-county CSA titled the [San Jose-San Francisco-Oakland, CA Combined Statistical Area](#) which includes the nine counties of [Alameda](#), [Contra Costa](#), [Marin](#), [Napa](#), [San Francisco](#), [San Mateo](#), [Santa Clara](#), [Solano](#), and [Sonoma](#) which border the San Francisco Bay plus the three counties of [San Joaquin](#), [Santa Cruz](#), and [San Benito](#) that are economically tied to the nine counties that that border the San Francisco Bay.

The OMB definition of this CSA includes Los Angeles, Orange, San Bernardino, Riverside

and Ventura counties.

The OMB definition of this CSA includes Sacramento, Yolo, El Dorado, Placer, Sutter, Yuba, and Nevada counties.

For small business added criteria to the above to consider:

Business Size – Less than ten employees and/or classified as Very Small (Customers whose annual electric demand is less than 20kW, or whose annual gas consumption is less than 10,000 therm, or both) , and/or

Leased or Rented Facilities – Investments in improvements to a facility rented or leased by a participating business customer

For residential added criteria to the above to consider:

Income – Those customers who qualify for the California Alternative Rates for Energy (CARE) or the Family Electric Rate Assistance Program (FERA), and/or

Housing Type – Multi-family and Mobile Home Tenants (rent and lease)

3. Early retirement specification direction

3.1. Baseline

The selection of early retirement (ER) and a pre-existing condition or replaced equipment baseline can only be accepted when a preponderance of evidence exists that the program has induced the replacement rather than merely caused an increase in efficiency in a replacement that would have occurred without the program. This evidence cannot be assumed to exist but rather must be collected and provided by the PA as part of their normal implementation and workpaper development activities.

D.12-05-015 at 346:

“In D.11-07-030, we adopted an approach to establishing a baseline for ex ante gross savings values.⁴⁹¹ This approach requires the review of the evidence related to one of the two baseline choices: (1) the pre-existing equipment used in the early retirement case; or (2) new equipment that is feasible to use and is code-compliant or an industry standard practice. Evidence relating to the reasons for the equipment replacement is used to make the baseline choice.

We note that D.11-07-030 may not reflect our clarification that the compelling evidence standard for the determination of baseline equipment must be applied to both possible outcomes.⁴⁹² Specifically, D.11-07-030 notes that it is necessary to establish, by a preponderance of evidence, that the program has induced the replacement rather than merely caused an increase in efficiency in a replacement that would have occurred without the program.

We direct Staff to update and distribute to the service list of this proceeding Appendix 1 of Attachment B to D.11-07-030, to incorporate clarifications provided here regarding baseline for gross savings estimates, and to indicate that a preponderance of evidence on the motivation for

equipment replacement shall be utilized to determine which of the two baseline alternatives is applied for all gross savings estimates.

As with many ex ante value setting activities, there will likely be cases where there is a difference of opinions among experts as to the interpretation of evidence for baseline determination. Commission Staff should use its ex ante review process to establish guidelines on how to evaluate and weigh different types of evidence for the determination of the appropriate baseline alternative.”

Footnote ⁴⁹¹ “D.11-07-030, Appendix I to Attachment B.

Footnote ⁴⁹² “D.11-07-030 at 40.”

D.12-05-015 at:

“The choice of an early retirement baseline implies that a dual baseline analysis shall be performed. ⁴⁹⁴ In the dual baseline analysis, the existing equipment baseline is utilized for the first or “early-retirement” period, also referred to as the “remaining-useful-life” period. For the second period from the end of the remaining-useful-life period through the end of the effective useful life of the new equipment, the baseline is set using the replace-on-burnout or normal-replacement equipment. The equipment used as the second baseline in early retirement must be equipment that is feasible to use and would be compliant with code requirements or industry standard practice. Regulations, codes, and standards applied to a baseline should be those that are known to be effective at the start of that baseline period, due to regulatory action that has been taken and will be effective at that future date.”

Footnote ⁴⁹⁴ “EPMv4, Rule IV.2. and also footnote 9.”

3.2. RUL

D.12-05-015 at 347:

“Once it is established that the program caused the existing equipment to be replaced early, we need to establish the period of accelerated retirement. In our discussion of DEER updates above, we note that DEER contains values for the effective useful life for many technologies and recommend using one-third of the effective useful life as the remaining useful life until further study results are available to establish more accurate values.⁴⁹³ For the case of program induced early retirement, the remaining useful life of the existing equipment should be used as the starting assumption for the period of accelerated retirement.

As is the case when evaluating evidence for program induced early retirement, evidence for the remaining life and the period of accelerated replacement of the existing equipment can also be reviewed. The use of a DEER remaining useful life starting point for the acceleration period may be replaced. However, this should be allowed only if credible evidence is available to support an alternative value and that evidence leads Commission Staff to deem it more credible than of the adopted DEER values. Commission Staff should develop guidelines for the evaluation of remaining useful life evidence for the replacement of the DEER default values for specific projects and technologies. We provide this flexibility to utilize alternative remaining useful life

values, based upon project or technology specific evidence, in place of the DEER adopted values primarily for use in Staff's review of the utilities' custom project and measure ex ante values."

Footnote ⁴⁹³ "Summary of EUL-RUL Analysis for the April 2008 Update to DEER, KEMA, at 2."

D.14-10-046 OP 9:

"9. For all projects undertaken by schools, and for programs targeting specific transmission, distribution, or generation constrained areas (other than bottoming-cycle combined heat and power projects), the following rules shall apply:

[a] and b) omitted]

c) The cap on expected useful life shall be 30 years for removed equipment only (not the equipment replacing the removed equipment)."

3.3. Cost

D.12-05-015 at 349:

"The measure or project cost utilized in an early-retirement case is the full cost incurred to install the new high-efficiency measure or project, reduced by the net present value of the full cost that would have been incurred to install the standard efficiency second baseline equipment at the end of the remaining useful-life period. Thus, the early-retirement cost is higher than the incremental cost used in a replace-on-burnout or normal-replacement case, only by the time value of the dollar amount of the standard equipment full installed cost, using our adopted cost-effectiveness discount rate to calculate that time valuation. As with all measures, our policy expects that incentives offered for early retirement will not exceed the actual early retirement cost.⁴⁹⁵"

Footnote ⁴⁹⁵ "EPMv4, Rule IV.4"

3.4. To-code measures and/or regressive baselines

There is a long standing expectation in CPUC policy and EE authorizations that the activities support projects that exceed code. This is a primary motivation for the inclusion of the credit for IOU induced codes and standard (C&S) changes into the goals and IOU attributed claims for C&S. This was clearly understood and stated by all IOU in the ALJ ordered workshop to explore the IOU application for C&S credit.

Joint Supplement to A.05-06-04 – Notice of availability of Energy Savings Estimates for Codes and Standards Advocacy Work, July 1, 2005, Attachment 1 (Report), Page 41:

"Is there possibility of double dipping if rebates are given for what is required by code? (Ariana Merlino)

Utilities agreed that they do not give rebates for meeting code, only for exceeding code. Code compliance programs should do things like training, education."

Since that time, to-code programs have required specific Commission authorization and with the exception of specifically authorized to-code activities all measure and project activities are expect to

exceed code or standard practice even in the case of early retirement. The only exceptions are authorized to-code activities such as the to-code pilots directed by D.14-10-046 OP 8. Additionally, retrofit baselines cannot be less efficient than the replaced equipment nor can the new equipment be of similar efficiency to the replaced equipment.

D.12-05-015 at 349:

“We find merit in the concern voiced by NAESCO that the finances of a deep retrofit activity may require convincing a customer to accelerate retirement of older equipment. However, we are equally concerned that the early retirement may push the customer not to do more than minimal code requirements. Early retirements should follow our policy to minimize lost opportunities and cream skimming.⁴⁹⁶ We expect efforts aimed at replacing less efficient older equipment with newer better than code or industry standard practice equipment to also pursue deepening the retrofits at those sites by combining lower cost faster payback activities with higher cost longer payback measures.”

Footnote ⁴⁹⁶ “EPMv4, Rule II.4.”

D.12-05-015 at 351:

“Independent of the baseline selection criteria, we would not expect that new equipment proposed for program incentive support would be simply a like-replacement of the existing equipment in efficiency level, as this would imply either a repair or normal replacement that would not qualify as an energy efficiency upgrade, unless: (1) the proposed equipment exceeds standard practice or code, and (2) there is clear evidence that without support, the efficiency level would fall to the standard practice or code minimum.”

D.14-10-046 at 58 (in the discussion of allowed early retirement):

“Projects, however, are still expected to exceed code even though they receive incentives that are calculated based on savings starting at pre-existing conditions.”

D.14-10-046 OP 9

“9. For all projects undertaken by schools, and for programs targeting specific transmission, distribution, or generation constrained areas (other than bottoming-cycle combined heat and power projects), the following rules shall apply:

[a) omitted]

b) The only eligible measures are those that are above code.”

January 22, 2014 Scoping Memorandum in R.13-11-005 at 7:

“[T]he 2015 portfolio is not the place to expand programs that are currently in the pilot stage. We speak here in particular to possible expansion of “to-code” programs, as several parties have proposed. Where the Commission has already approved pilots, the Commission should have an opportunity to analyze data from the pilots before administrators start additional pilots or expand from a pilot to a full-scale program. The Commission included expansion of to-code programs generally within the preliminary scope of Phase III of this rulemaking, and we do not

see an immediate need to address the issues associated with to-code programs, per se, until then.”

4. UES direction

4.1. Baseline selection

See Section 3.1 Above for the discussion of baseline selection for ER measures which also includes a discussion of baselines for other measure types. For new construction (NC), replace-on-burnout (ROB) and normal replacement (NR) measures the baseline is set based upon the applicability of codes standards and regulations.

D.12-05-015 at 350:

“For new equipment choices that are subject to existing regulations, codes or standards, our current policy provides that the baseline equipment be determined by the regulation, code, or standard requirements.”

D.12-05-015 at 351:

“In the cases when there is no regulation, code, or standard that applies, which would normally set the baseline equipment requirements, the baseline must be established using a “standard practice” choice. For purposes of establishing a baseline for energy savings, we interpret the standard practice case as a choice that represents the typical equipment or commonly-used practice, not necessarily predominantly used practice. We understand that the range of common practices may vary depending on many industry- and/or region-specific factors and that, as with other parameters, experts may provide a range of opinions on the interpretation of evidence for standard practice choice. Here again, we expect Commission Staff to use its ex ante review process to establish guidelines on how to determine a standard practice baseline.”

4.2. Use of DEER

The discussion and Decision text provided in Sections 1, 2, and 3 covers this topic and should be consulted. Those citations are further supported by the following Decision ordering Paragraphs.

D.12-05-015 Ops

“8. The proposed dispositions for issues provided in Attachment A to this Decision are adopted and Commission Staff shall modify the final Database of Energy Efficiency Resources 2011 release to include all changes in those proposed dispositions.”

“10. Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas & Electric Company, and Southern California Gas Company shall use the clarifying direction contained in the adopted dispositions for issues in Attachment A to this Decision in ex ante value filings required by this Commission.”

“143. Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas & Electric Company, and Southern California Gas Company shall utilize Database for Energy

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Efficient Resources (DEER) assumptions, methods, and data in the development of non-DEER values whenever appropriate, and shall follow Commission Staff direction relating to the determination of appropriate application of DEER to non-DEER values.”

“**147.** Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas & Electric Company, and Southern California Gas Company shall ensure that custom measure and project calculation tools or methods are consistent with the adopted Database of Energy Efficient Resources values and assumptions as applicable.”

“**149.** Commission Staff shall assign, at its discretion, Net-to-Gross (net of free ridership) values as part of its ex ante project reviews process.”

Additionally, this subject was revisited in D.14-10-046 at 72:

“We direct (again) PAs to use the latest-available DEER values, and to ensure that their implementers do the same.”