

4.3. DEER 2011 Update

As discussed above, to ensure the utilities follow our policy and procure cost effective energy efficiency that meets our goals, we have adopted the Total Resource Cost and Program Administrator Cost effectiveness indicators. We require the utilities to submit in their portfolio applications a prospective showing of the estimated Total Resource Cost and Program Administrator Cost for their proposed portfolios. We refer to the cost effectiveness parameters that are used in this required prospective showing as ex ante values.

The primary source of our ex ante values is the DEER.⁴⁰ The assumptions used to produce ex ante values contained in DEER, including analytic and calculation methods, are included in our adoption of DEER.⁴¹

Pursuant to the Phase IV Scoping Memo, Commission Staff updated DEER for use in the 2013-2014 transition portfolio, focusing on updates to High Impact Measures (HIM) and changes expected to have the biggest impact on savings potential, while striving to incorporate the best available information from the

⁴⁰ Energy Efficiency Policy Manual, Version 4 (EPPMv4), Rule II.11.

⁴¹ DEER is not the full universe of ex ante assumptions and values that may be used by the utilities for planning and reporting purposes. The utilities are encouraged to augment their portfolio with measures and activities that are not identified in DEER to increase their ability to meet our energy efficiency goals in a cost effective manner. To this end, we have authorized the utilities to submit workpapers that contain proposed additional assumptions and values for measures not contained in DEER.

most current evaluations.⁴² The draft DEER 2011 Update was posted on the DEER website⁴³ and incorporated into this proceeding by ALJ Ruling.^{44,45}

In comments, parties raised issues on the overall DEER update process and on specific aspects of Commission Staff's proposed DEER 2011 Update. These issues are taken up below.

4.3.1. DEER 2011 Update Process

4.3.1.1. Party Positions

Parties generally agree that at least certain values in the DEER database should be updated for the 2013-2014 transition period.⁴⁶ PG&E agrees with the direction in the Phase IV Scoping Memo that the focus of the ex ante update should be on High Impact Measures as they have the largest impact on savings potential.⁴⁷ NRDC agrees with PG&E that "targeted updates" are appropriate.⁴⁸

⁴² The Phase IV Scoping Memo at 14, states that, "The DEER will be updated by the Commission Staff to reflect all relevant and sufficiently supported data and results from the 2006-08 evaluation activities."

⁴³ The DEER website is located at <http://deeresources.com/> and the draft DEER 2011 update values and documentation are on the "DEER 2011 for 2013-2014" page with addition information on the "DEER 2011 Issues & FAQ" page.

⁴⁴ ALJ November 17, 2011 Ruling.

⁴⁵ ALJ November 17, 2011 Ruling, with due date revised in ALJ December 28, 2011 Ruling.

⁴⁶ PG&E, Comment on Phase IV Scoping Ruling at. 10; NRDC Comment on Phase IV Scoping Memo at 7; Efficiency Council Comment on Phase IV Scoping Ruling at 10; SCE Comment on Phase IV Scoping Memo at 7; Ecology Action Comment on Phase IV Scoping Ruling at.2; SDG&E and SoCalGas Comment on Phase IV Scoping Memo at 13; TURN Comment on Phase IV Scoping Memo at 13; DRA Comment on Phase IV Scoping Memo at 10; Synergy Cos. Comment on Phase IV Scoping Memo at 5.

⁴⁷ PG&E, Comment on Phase IV Scoping Memo at 11; Phase IV Scoping Memo at 14.

⁴⁸ NRDC, Comment on Phase IV Scoping Memo at 7.

The Efficiency Council recommends that the Phase 1 update and simpler, widely-agreed upon ex ante data inputs be incorporated into DEER.⁴⁹ DRA agrees with the Scoping Memo that updates should focus on High Impact Measures and “changes having the biggest impact on savings.”⁵⁰

In contrast, SCE requests that there be a full ex ante update prior to the development of the transition portfolios.⁵¹ SCE points out that the version of the software used to develop savings estimates was released to the public on December 5, 2011, which was about one month into the review period.⁵² SCE is concerned that there have been “no requests for the DEER team [for] input into the process, since August,” when the process started, and believes that the “process is inherently biased” since stakeholders were not consulted and “the DEER team had over a year to develop the inputs.” SCE states that the current “process is not the collaborative process envisioned and requested by the Commission in this proceeding.”⁵³ NRDC’s statement, that the limited time for review and input by the utilities, third-party implementers and other stakeholders prevents the integration of DEER updates into portfolios for the transition period, supports SCE’s request.⁵⁴

⁴⁹ Efficiency Council, Reply Comment on Phase IV Scoping Memo at 4.

⁵⁰ DRA, Comment on Phase IV Scoping Memo at 10-11, quoting Phase IV Scoping Memo at 14.

⁵¹ SCE, Comment on Phase IV Scoping Memo at 14.

⁵² SCE opening comments on the DEER and Potential Ruling at 11.

⁵³ *Ibid.* at 11.

⁵⁴ NRDC opening comments on the DEER and Potential Ruling at 2.

4.3.1.2. Discussion

We find that the Commission Staff's proposed update has followed our guidance to focus on the expected High Impact Measures in the utilities' portfolios. We decline to adopt parties' request that only noncontroversial values be updated. In many cases, the values that parties find the most controversial are the values most important to developing accurate overall portfolio impacts and thus are the most important values to be researched and updated regularly to ensure that our estimates of overall portfolio impacts and cost-effectiveness are as accurate as possible within the time and resources constraints on the updating process.

Nor do we agree with parties' comments concerning the lack of time for review of the current proposed DEER 2011 Update. The primary input parameter changes in the proposed updates are drawn from data from the 2006-2008 evaluations that were published during the first quarter of 2010. Commission Staff proposed many of the software updates and modeling methodology changes during that same time period. We decided not to adopt the recommended changes to DEER in D.10-12-054, all the evaluation results and DEER modeling changes recommended at that time (and now incorporated into the proposed DEER 2011 Update) have been available for review since early 2010.

The final proposed update, which included updates beyond those provided in early 2010, was released last November, and Commission Staff made information requested by parties available during December. The time allowed for comments was extended into January 2012 to accommodate the subsequently added information. Moreover, some parties provided comments on very detailed aspects of the update modeling methods (as listed in Attachment A).

The detail of these comments seems to run counter to the suggestion that there exists a lack of transparency or inadequate opportunity for review and comment.

4.3.2. Complexity of Ex Ante Values

4.3.2.1. Party Positions

In comments, several parties assert that development of unit energy savings values has become needlessly complex and that this complexity has greatly slowed the updating of unit energy savings values to reflect improvements in technological efficiency. These same parties point out that older versions of DEER included a mix of energy simulation-based unit energy savings values and savings estimates based on simplified engineering calculations. For example, PG&E states that, “since 2005, DEER has evolved into a set of derived values based on complex modeling methods, which is inconsistent with the original intent of the tool.” Further, PG&E “believes DEER should use agreed-upon [Evaluation] values ...”⁵⁵ and additional levels of detail “can provide a false sense of accuracy.”⁵⁶ SCE believes that versions of DEER, dating back to 2005 and before, used appropriate methodologies for specific applications and “The Draft DEER 2011 Update relies solely on building simulation models rather than determining the best methodology for estimating ex ante cost-effectiveness ...” and “[w]hile a simulation may provide more precise hourly savings estimates” the cost of these calculation approaches may have limited benefits compared to “simpler engineering calculations.”⁵⁷

⁵⁵ PG&E opening comments on DEER at 16.

⁵⁶ *Id.* at 18.

⁵⁷ SCE opening comments on DEER at 20.

SDGE/SoCalGas echo this sentiment, pointing out the complexity of the DEER database and recommend that it be simplified and reduced.⁵⁸ SDG&E states that, “The Commission must re-evaluate whether this ... increasing, intense data generation is itself cost effective ...” and proposes that, “the previous version of DEER, built solidly on averages and much easier to understand, would be a much better tool going forward into the next program cycle.”⁵⁹ NRDC agrees with utility comments and believes the level of complexity does not provide additional value to DEER and also “imposes substantial costs” on all parties by requiring additional implementation, consulting and administrative services and costs.⁶⁰

4.3.2.2. Discussion

The proposed DEER 2011 Update utilizes building simulation methods that are similar to those used in all previous versions of DEER and to DEER predecessors developed in the early 1990s.⁶¹ It is our understanding that the utilities have used similar building simulations for their own ex ante value development efforts.⁶² Impact evaluation activities dating back to the 1990s have

⁵⁸ SDG&E/SoCalGas, Comment on Programmatic Guidance Ruling at 2.

⁵⁹ SDG&E opening comments on DEER at 3.

⁶⁰ NRDC reply comments on DEER at 2.

⁶¹ “Final Report on Technology Energy Savings,” for California Conservation Inventory Group (CCIG), May 1994; “2001 DEER Update Study Final Report,” for CEC, August, 2001; “2004-2005 Database for Energy Efficiency Resources (DEER) Update Study,” for SCE, December 2005.

⁶² The Non-Residential New Constructions programs have been requiring use of CEC approved whole building simulation programs since their inception more than a decade ago. All such CEC approved non-residential compliance software utilize the DOE-2 simulation program which is also used for DEER modeling. Similarly, the utilities’

Footnote continued on next page

relied upon these building simulation methods for estimating the energy savings and cost-effectiveness of energy efficiency measures relating to indoor lighting systems, heating and air-conditioning systems, and building shell elements.⁶³

We disagree with SCE that the DEER methodologies rely solely on building simulation. The current methodology, which includes the use of building simulation, meets our expectations and directions for this DEER update.⁶⁴

We expect a combination of methodologies that provide accurate estimates in a cost-efficient manner to be used. While we agree with comments that our adopted ex ante values should not imply a sense of accuracy beyond that which is defensible based upon the underlying data and methods, we also believe there is benefit in having specific point value estimates for all ex ante values that are reflective of the best information available. We recognize that there is an inherent conflict between the need to adopt point values and the complexity and uncertainty of methods and data being utilized to produce those point estimates, and understand that some values have greater uncertainty than we would like and that point values may represent an “expected value” while individual customer experienced values may fall within a wide range. To this end, we

non-residential customized retrofit programs utilize savings estimating software based upon DOE-2 (*see*, for example, the Estimating Energy Savings and Incentives section of the 2012 Statewide Customized Offering Manual (<http://www.aesc-inc.com/download/spc/2012SPCDocs/UnifiedManual/Customized%202.0%20Energy%20Savings.pdf>)).

⁶³ *See*, for example, “International Performance Measurement & Verification Protocol,” March 2002, Section 3.4.4 Option D: Calibrated Simulation.

⁶⁴ However, Commission Staff should continue to seek input from parties to determine where and when to use a particular analytical approach from the range of available techniques and to choose approaches that make the most sense given the weight of evidence and requirements for a particular measure or program activity.

direct Commission Staff to take steps to ensure ex ante values are not presented in a manner that appears to overstate the accuracy of the underlying information.

4.3.3. DEER Net-To-Gross Values

4.3.3.1. Net-to-Gross Development Methodology and Complexity of Resulting Values

4.3.3.1.1. Party Positions

Many parties expressed concerns over the development and applicability of proposed Net-to-Gross values.⁶⁵ For example, PG&E disagrees with many underlying methodologies and questions whether the proposed values truly reflect actual free-ridership.⁶⁶ According to PG&E, “[i]t appears that many Net-to-Gross ratios were based on inadequate ... sample size, insufficient response levels, and/or [an] eighteen to thirty-six month delay in surveying customers ...”⁶⁷ PG&E further asserts that the “Strategic Plan supports deep, lasting energy savings, yet the proposed Net-to-Gross values ... are not in line with these goals.”⁶⁸ PG&E advocates for a transition to a “gross savings measurement methodology.”⁶⁹ Similarly, SCE argues that proposed Net-to-Gross values rely on the 2006-2008 Evaluation studies and that the “flaws of [these studies] have been well documented by parties, including the

⁶⁵ The subject of Net-To-Gross ratio values, as in previous and other ongoing proceedings, has been a topic of much discussion and comment by parties.

⁶⁶ PG&E opening comments on DEER at 23.

⁶⁷ *Id.* at 24.

⁶⁸ *Id.* at 9.

⁶⁹ *Id.* at 8.

Commission, particularly the fact that they were conducted during the biggest economic recession in a generation.”⁷⁰

NRDC states that some references to evaluation results provide “the appearance of analytical foundation, but many of the cited studies offer little to no analytical support for the recommended values.”⁷¹ NRDC goes on to assert that the Commission’s increasing focus on attribution vis-à-vis Net-to-Gross is “both analytically flawed and counterproductive” and that this focus is counter to the Commission’s history of energy efficiency policies “that ensure California utilities rely on efficiency as their first resource to reduce the need for increased generation.”⁷² SDG&E/SoCalGas argue that the proposed Net-to-Gross values are not consistent with other existing Commission policies or with common program implementations. For example, SDG&E/SoCalGas highlight how the proposed value for emerging technologies (0.70) conflicts with the much higher market penetration suggested in the Draft 2011 Potential Study.⁷³ SDG&E/SoCalGas also express concern that proposed Net-to-Gross values for custom projects may get applied to all custom projects including those subject to the Commission Staff Custom Project Review Process, and therefore recommend that the Commission clarify that these values should not apply to reviewed projects.⁷⁴

⁷⁰ SCE reply comment on DEER at 12.

⁷¹ NRDC opening comments on DEER at 4.

⁷² *Id.* at 4.

⁷³ SDG&E/SoCalGas opening comments on DEER at 6.

⁷⁴ *Id.* at 8.

TURN is concerned that Net-to-Gross values for Compact Fluorescent Lamps measures and programs understate free rider levels. TURN notes that only two of the values from the 2006-2008 Evaluation studies are above 0.5, many are much lower, and yet the proposed Net-to-Gross for basic Compact Fluorescent Lamps is 0.54.⁷⁵ TURN is concerned that, (1) the proposed DEER includes “one particular estimate from the upstream lighting program” even though the “evaluation includes ... alternative estimates that are lower”; and (2) the recommended Net-to-Gross value “was developed a number of years ago” and does not consider “the impact of changes in lighting market and other factors on Compact Fluorescent Lamps NTG ratios.” TURN recommends that the Net-to-Gross ratio for basic Compact Fluorescent Lamps be reevaluated.⁷⁶ SCE disagrees with TURN’s assessment and recommendation related to Net-to-Gross values for Compact Fluorescent Lamps.⁷⁷

Many parties assert that several of the proposals related to Net-to-Gross add complexity without benefit. Proposed revisions include different Net-to-Gross for electricity consumption (kWh), electricity demand (kW), and natural gas consumption (therm). Regarding separate Net-to-Gross for kWh, kW and therm, PG&E comments, “While the validity of this theory is questionable at best, the additional complexities it adds to the process are not justified.”⁷⁸ The proposed revisions also include different Net-to-Gross values for each utility. According to SCE, while these differences may be statistically valid, “it is not

⁷⁵ TURN opening comments on DEER at 3.

⁷⁶ *Id.* at 4.

⁷⁷ SCE reply comments on DEER at 13.

⁷⁸ PG&E opening comments on DEER at 25.

clear how most customers will be influenced differently for the same measure, relative to the resulting energy savings and demand reduction.”⁷⁹ SCE believes varying Net-to-Gross by utility causes “anomalies in shared climate zones and ... where an Net-to-Gross does not exist for a specific IOU” and therefore recommends statewide Net-to-Gross values.⁸⁰

4.3.3.1.2. Discussion

We believe the Net-to-Gross work undertaken by Commission Staff for the 2006-2008 period is equal, if not superior to, past Net-to-Gross work and the resultant values overall are also superior to the values that resulted from similar work by the utilities. While that there are instances where the sample size used to develop particular utility program results should have been larger (to reduce uncertainty in those results), this does not lead us to agree that those results should be rejected in favor of older results that are likely even less representative of the current activity. We agree with Commission Staff’s recommendation to update DEER with 2006-2008 evaluation Net-to-Gross results rather than retain older DEER values based upon older evaluation results.

We reject the notion that only gross savings are important and the analysis of net savings should be either downplayed or abandoned completely. Net savings are a key component of the Commission’s adopted cost-effectiveness calculations performed to ensure that the utilities’ ratepayer funded activities are cost-effective, as required by statute.

⁷⁹ SCE opening comments on DEER at 19.

⁸⁰ *Id.*

While we agree that interviews with customers and others who participate in the utility programs are best made when their memories are fresh, this is a desired improvement that holds equally true for older evaluation activities (i.e., 2004-2005 and earlier) performed under utility direction. Undertaking Net-to-Gross interviews earlier requires the utilities and their customers to cooperate and facilitate these early interviews. We require this facilitation from the utilities and this cooperation by customers as a condition of receipt of energy efficiency funds. We are concerned by reports from Commission Staff that the needed cooperation and facilitation has been hampered. The utilities must respond to Commission Staff's request for Evaluation data in a timely manner to facilitate our ability to interview customers early so as to improve the reliability of their Net-to-Gross results.

We share the concerns TURN expresses about Net-to-Gross values for basic Compact Fluorescent Lamps measures, but note that the kW, kWh and therm energy savings values for those measures appear to have been subject to much larger percentage changes than Net-to-Gross based upon recent evaluation results. The proposed DEER updates to Net-to-Gross values suggest a downward adjustment by 10% of the previous values while the kWh values are adjusted downward by close to 30%. While TURN correctly notes that the 2006-2008 evaluation report included alternative statewide values for upstream Compact Fluorescent Lamps as low as 0.43, it is equally true that the report recommended the use of a higher value of 0.54. Commission Staff chose to retain

the evaluation report recommended value for the DEER update, and we agree with that recommendation.⁸¹

We agree that similar measures delivered by similar activities should have single statewide values unless recent evaluations show a significant variation between utilities and that difference is supported by a historical trend of evaluation results. While it would be inappropriate to adopt planning values based on anomalous results we do not believe the 2006-2008 evaluation Net-to-Gross results overall are anomalous. We therefore accept Staff's recommendation to use those results. We direct Commission Staff to strive for uniform statewide Net-to-Gross planning values that represent typical expected results in the DEER update for the next planning cycle for measures in which the variation between utilities is not significant.

Finally, while we see how a project composed of separate gas and electric measures may have a composite Net-to-Gross we do not see the need to use different Net-to-Gross values for kWh, kW and therm for a single measure. Commission Staff should revise the DEER 2011 Update to remove this complexity for the case of single measures and better document how the DEER values are to be used for projects which include both gas and electric measures.

4.3.3.2. Considering Recent Program Improvements in DEER Net-to-Gross Values

4.3.3.2.1. Party Positions

Several parties are concerned that the proposed Net-to-Gross values do not consider recent improvements to program design and implementation – that

⁸¹ We address our overall concerns on basic CFL programs and the rather steep decline in both net and gross savings in our direction related to those activities.

past performance is not an indicator of future success because the programs have been revised and are addressing different market conditions. NRDC comments that, “the proposed Net-to-Gross Ratios represent a backward-looking static approach to program design” and that this approach “provides a counterproductive focus on the past that confounds the Commission’s efforts to field ambitious, forward-looking programs.”⁸² National Association of Energy Service Companies (NAESCO),⁸³ PG&E,⁸⁴ SCE,⁸⁵ and SDG&E/SoCalGas⁸⁶ hold similar views that proposed Net-to-Gross values do not adequately consider changes in program design, program delivery and market conditions to produce forward looking values.

SDG&E/SoCalGas “recommend that before the Net-to-Gross values are finalized discussions on program design and changes to improve Net-to-Gross for the coming cycle be done prior to filing the program applications.”⁸⁷ NRDC recommends the Commission utilize the 2013-2014 period to resolve key disputes⁸⁸ and “transition to an alternative framework for addressing the issue of attribution.”⁸⁹ PG&E states that 2006-2008 programs have been modified in a variety of ways and that “it is of questionable benefit to apply Net-to-Gross

⁸² NRDC opening comments on DEER at 4.

⁸³ NAESCO reply comments on DEER at 3.

⁸⁴ PG&E reply comments on DEER at 8-9.

⁸⁵ SCE opening comments on DEER at 16.

⁸⁶ SDG&E/SoCalGas reply comments on DEER at 3.

⁸⁷ SDG&E/SoCalGas opening comments on DEER at 6-7.

⁸⁸ NRDC opening comments on DEER at 3-4.

⁸⁹ *Id.* at 5.

values that were developed using a previous set of assumptions.” On claims that, “the Net-to-Gross values indicate a serious disconnect between program strategy and program practicality,” PG&E recommends the Commission “revisit proposed Net-to-Gross values so that they help, rather than hinder, achievement of the Strategic Plan goals.”⁹⁰

4.3.3.2.2. Discussion

We agree that Net-to-Gross, like many other cost-effectiveness and program performance metrics, can be difficult and/or expensive to measure with a high degree of certainty. We disagree with comments that suggest that Net-to-Gross is not an important metric in the valuation of portfolio activities. However, this does not mean, in our view, that the utilization of Net-to-Gross as a metric is diminished in its importance. A low Net-to-Gross value indicates that much of the savings resulting from the activity would have occurred without utility portfolio support.

While we have decided to adopt goals using a gross savings metric in past decisions, and consider the use of gross goals later in this section, we continue to measure portfolio cost-effectiveness using net metrics and expect the utilities to take actions in their portfolio design and implementation that act to maximize the net program benefits for the ratepayers dollars invested in the energy efficiency activities. For these reasons, we disagree with comments that suggest that Net-to-Gross is not an important metric in the valuation of portfolio activities.

⁹⁰ PG&E reply comments on DEER at 9.

4.3.3.3. Net-to-Gross Values for Customized Projects and Emerging Technologies Measures

4.3.3.3.1. Party Positions

SoCalGas believes the proposed Net-to-Gross values treat natural gas projects unfairly, asserting that the higher capital costs and lower energy cost savings of gas measures, particularly for residential and commercial customers, make it inappropriate to combine electricity and natural gas projects into single calculations for Net-to-Gross. By this logic electricity measures will have greater financial benefit than natural gas measures and, “when the DEER Study melds together results from a dual-fuel utility with those of a single-fuel utility, the latter quickly becomes diluted and may not even be meaningful.”⁹¹ SoCalGas believes that Net-to-Gross for large custom projects cannot be developed using the approaches in the 2006-2008 Evaluation research. Large capital costs for these projects means approval takes several years, and the project can move through several different entities prior to moving forward. As a result, identifying free-ridership requires more than a single survey of one customer representative.⁹² SoCalGas also notes that the 2006-2008 Evaluation research identified as free riders “customers who were ... replacing their equipment in response to jurisdictional (e.g., air quality) requirements.” For the current program cycle, SoCalGas has formalized a process for disallowing applicants whose only objective is meeting regulatory requirements.⁹³ SoCalGas emphasizes that, “larger scale projects are more likely to be cost-effective, and

⁹¹ SDG&E/SoCalGas opening comments on DEER at 3.

⁹² *Id.* at 4.

⁹³ SDG&E/SoCalGas opening comments on DEER at 7.

are consequently a large component of how the overall cost-effectiveness is maintained.”⁹⁴ SoCalGas has provided a recommended alternative calculation resulting in an Net-to-Gross ratio of 0.63 for custom projects compared to the DEER proposed value of 0.54.⁹⁵

NRDC believes that proposed Net-to-Gross values for custom measures will exclude all but the most cost-effective custom projects, which will typically be short-term lighting dependent measures.⁹⁶ NRDC states that the proposed Net-to-Gross values for custom projects ignore the impacts of the recently implemented custom project review process, which is “intended to address concerns raised about biased ex ante estimates and should result in fewer free riders and higher Net-to-Gross Ratios.”⁹⁷ NRDC also notes that, as part of the custom review process, savings of un-reviewed custom projects are reduced by 10% due to the adopted default Gross Realization Rate of 90% and states, “The proposed DEER updates appear to ignore these changes [embodied in the CPRT] and propose to assume further significant downward adjustment to saving estimates.” NAESCO argues that the proposed lower Net-to-Gross values for custom projects do not take into account the expertise provided by third-party implementers in identifying benefits to customers of large complex processes. NAESCO points out “in other parts of this proceeding [Commission Staff describes] the failure of the market to provide a significant level of Energy Efficiency implementation [and requests] all interested

⁹⁴ *Id.* at 4.

⁹⁵ SDG&E/SoCalGas opening comments on DEER, Attachment at 1.

⁹⁶ NRDC opening comments on DEER at 7.

⁹⁷ *Id.* at 6.

parties to provide suggestions about how the market can be enhanced.”⁹⁸ PG&E agrees with NAESCO and NRDC that the reduced Net-to-Gross for custom projects is not justified.⁹⁹

Several parties express concern that the proposed Net-to-Gross values discourage emerging technologies, unfairly treat early retirement measures and otherwise unjustifiably reduce savings. SCE states, “If the presumption is that transformed measures must have lower Net-to-Gross, then emerging technologies measures should be presumed to have high NTGs.”¹⁰⁰

SDG&E/SoCalGas disagree with the approach of using traditional methods of establishing Net-to-Gross values and then applying those Net-to-Gross values to early retirement projects subject to the dual baseline.¹⁰¹ Current definitions of NTG overlap “with the NTG ratio calculation by unilaterally assuming that a participant would, in fact, have replaced the pre-existing equipment in a later year” and that, with the application of the dual baseline approach to calculating savings “the NTG values becomes redundant and irrelevant.”

⁹⁸ NAESCO opening comments on DEER at 3.

⁹⁹ PG&E reply comments on DEER at 10.

¹⁰⁰ SCE opening comments on DEER at 27.

¹⁰¹ For early retirement measures, a “dual baseline” applies which means that a customer average baseline is used for the calculation of energy savings for the remaining useful life (RUL) of the removed equipment. At the end of the RUL, the customer would have needed to replace the failed equipment with equipment that reflected current energy efficiency standards and/or market practices. This second baseline is used to calculate the [reduced] savings for the remainder of the effective useful life (EUL) of the measure.

SDG&E/SoCalGas recommend that an Net-to-Gross of 1.0 be used for projects subject to a dual baseline.¹⁰²

4.3.3.3.2. Discussion

We agree with the SDG&E/SoCalGas comments related to combining Net-to-Gross values for gas and electric projects. Commission Staff must provide separate Net-to-Gross values for gas and electric projects that are developed for those types of projects alone, unless the values are sufficiently similar that a single value is warranted. This will require Commission Staff to apply judgment in cases where the line between gas and electric project designation is less clear and provide guidance to the utilities as to how to apply gas versus electric Net-to-Gross values to projects that include a combination of gas and electric measures. We adopt the specific direction on this matter provided in Attachment A as part of the DEER 2011 Update.

We share the SDG&E/SoCalGas concerns regarding Net-to-Gross values for large versus small projects. Although we do not direct any changes at this time, we direct Commission Staff to research this issue for the next ex ante update and, if appropriate and supported by existing data, propose alternative values that account for the differences based on project size for custom gas and electric measures.

We also share the SDG&E/SoCalGas concerns about the proposed update to the Net-to-Gross value for commercial and industrial custom gas projects. The recommended value of 0.35 is lowered primarily due to a 0.31 result from the 2006-2008 evaluation of PG&E program activities. Although we have no reason

¹⁰² SDG&E/SoCalGas opening comments on DEER at 5.

to doubt the validity of that result, we do not expect that such a low value would be best for planning for the 2013-2014 cycle. In D.11-07-030 we adopted a custom measure and project review process by which Commission Staff will be able to review and update ex ante values based upon current activities.¹⁰³ We adopted that review process first due to the desire to improve the ex ante values for those projects and second to allow the utilities to respond to Commission Staff reviews with program design changes that improve overall program ex ante versus ex post results.

We expect the utilities to respond to Commission Staff reviews, not just by accepting altered ex ante values, but by taking steps to change program activities to improve the Net-to-Gross results. We do not expect the utilities to curtail custom measure and project activities due to low gross savings or Net-to-Gross results. They should respond to any such poor results with programmatic changes designed to improve performance. For example, when a customer is found to be likely to carry out a project without incentive support, the program should strive to push the customer to augment its plans to include additional action that would not occur without incentive support, or redesign the incentive structure offered to encourage deeper and more comprehensive retrofit activities as well as aligning the dollar amounts to be commensurate with the level of savings that can be attributed to the program.

In anticipation of the custom project review and programmatic changes mentioned above, we agree that it is reasonable to expect improvements to the evaluated NTG results for both the 2010-2012 program cycle and the 2013-2014

¹⁰³ D.11-07-030, Attachment B.

transition portfolio relative to the 2006-2008 ex post results. For this reason, we increase the commercial and industrial custom project NTG value in the DEER 2011 Update from 0.35 to 0.50. We direct Commission Staff to track the results of its custom project and measure review activities as well as related 2010-12 impact evaluation activities and report any results on NTG values in a timely manner for consideration when ex ante update values are adopted for the next program cycle.

We also agree with comments regarding NTG 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 NTG category for Emerging Technology measures with a default NTG value of 0.85. The existing non-DEER 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 NTG 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 NTG at a higher value than the default value as it deems appropriate.

4.3.3.4. DEER Values for HVAC Interactive Effects

4.3.3.4.1. Positions of the Parties

Many parties oppose the use of interactive effects in estimating savings claims.¹⁰⁴ SDG&E notes that, in 2010-2011, “estimated negative therm values from the DEER resulted in negating approximately 70% of all of SDG&E’s real gas savings.”¹⁰⁵ Many parties claim DEER interactive effects are un-vetted and should be set aside. SDG&E states that, in addition to the DEER work to produce interactive effects, only one other study has been performed, and “that study indicates ... the gas interactive effect is not significantly different from zero.”¹⁰⁶ NRDC also believes the interactive effects are “overestimated and unfounded,” and refers to the same study referenced by SDG&E. NRDC also cites several other jurisdictions in the country where interactive effects are assumed to be small or non-existent.¹⁰⁷ PG&E acknowledges that, “more efficient devices within a building produce less waste heat, thus enabling air-conditioning systems to use less energy in the cooling season,” while “during the heating season, furnaces will use more energy.”¹⁰⁸ However, PG&E feels more expert review is needed for the DEER models used for estimating interactive

¹⁰⁴ Measures such as lighting retrofits and appliance replacements reduce the amount of energy rejected as heat to conditioned space. This will result in an increased need for heating energy and a decreased need for cooling energy. The increased need for heating energy is often referred to as a “negative impact.” This phenomenon of an energy efficiency measure also causing a change in the energy use of the space conditioning equipment is called an “interactive effect.”

¹⁰⁵ SDG&E/SoCalGas opening comments on DEER at 9.

¹⁰⁶ *Id.* at 8.

¹⁰⁷ NRDC opening comments on DEER at 6.

¹⁰⁸ PG&E opening comments on DEER at 18.

effects and, “requests and proposes that any model used for DEER purposes be widely circulated for industry expert evaluation and approval prior to use.”¹⁰⁹

4.3.3.4.2. Discussion

During the review of party comments relating to HVAC interactive effects, Commission Staff identified and corrected some mistakes in the DEER interactive effects calculation methods, and these corrections have been made in the DEER 2011 Update. We remain open to reconsidering this issue in the future, as additional evaluation results are available for review and comment. It is our understanding that a soon-to-be released draft Commission Staff report specifically examines HVAC interactive effects as currently contained in DEER and that Commission Staff intends to continue work to improve both the methods and underlying data upon which DEER HVAC interactive effects are based.

In the meantime, we affirm our order in D.09-05-037 that HVAC interactive effects are appropriate for incorporation into DEER.¹¹⁰ We also affirm that the inclusion of HVAC interactive effects into DEER places a similar requirement for inclusion of those effects into non-DEER workpapers and custom measures and projects calculations. In its review of utilities’ workpapers and custom measures and projects, Commission Staff shall ensure the utilities include these effects when Staff deems that inclusion has a significant impact on the savings estimate.

¹⁰⁹ *Ibid.*

¹¹⁰ D.09-05-037, Ordering Paragraph 3 denied the utilities’ proposal to eliminate HVAC interactive effects from DEER.

Our potential and goals studies now incorporate HVAC interactive effects, so we do not expect goals to need any adjustment due to these effects, as long as the goals values remain updated based on ex ante values which include these effects. We expect consistent treatment of HVAC interactive effects among the DEER, potential, and goals studies.

4.3.4. Other Updates to DEER Values

Several parties comment on the details of the proposed updates to DEER kW, kWh and Therm unit energy savings and other DEER values or methods. These detailed comments are enumerated in Attachment A along with a Commission Staff discussion of the issues raised and any recommendations for changes based on the comments.

Many parties' comments offer their preferred assumptions and values for use in DEER, and opine that the Staff's recommendations are biased against their activities and energy efficiency in general. As previously articulated in D.09-09-047, we reject the utilities' request to utilize their preferred values in updating DEER in place of the recommendations provided by Commission Staff. As stated in D.09-09.047:

The updates to DEER resulting from [Commission Staff's] independent analysis do not in any way diminish the utilities ability to deliver savings. Rather they ensure that reported savings are more closely aligned with actual load impacts, as informed by our best Evaluation data. We believe it is of the utmost importance that reported achievements reflect honest representations of load impacts, and to the extent that a

discrepancy exists, it is far preferable to align goals with reality than to resist adjustments based on updated data.¹¹¹

In our view, reliance on Commission Staff to develop ex ante updates, with input from the utilities and other stakeholders, provides better assurance that the utilities' estimates of portfolio goal attainment and cost-effectiveness prospectively during planning as well as retrospectively during implementation reporting are reliable and thus appropriate for us to use as a basis for our decision making. We direct Commission Staff to include all of the recommended changes provided in Attachment A in the final DEER 2011 release.

4.3.5. Adoption of DEER 2011 for Planning

We adopt Staff's recommendations for updates to DEER, with the modifications discussed in the sections above, which have been posted on the DEER website (<http://www.DEEResources.com>) on the page labeled "DEER 2011 for 2013-2014 Planning." The DEER 2011 update adopted in this decision was utilized as a first reference source for values and assumptions in the production of the final potential study, discussed later in this section.

4.4. 2011 Energy Efficiency Potential Study

The draft 2011 Energy Efficiency Potential Study (draft Potential Study), issued by ALJ ruling on November 17, 2011, was an update to the 2008 Potential Study and 2003 Secret Surplus Study. Like the previous two studies, the 2011 Potential Study provides a statewide assessment of energy efficiency potential at three levels: technical, economic, and market. Technical potential encompasses complete penetration of all energy efficiency measures that are technically

¹¹¹ D.09-09-047, Section 4.2.2 at 3.