

PACIFIC GAS AND ELECTRIC COMPANY

PG&E Customized Energy Efficiency Policy & Programs Rulebook

Version 1.5

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Change Log

Version	Date	Description
0.90	Oct 12, 2015	DRAFT - Initial release – sent to TRs, FES, PMs, PO
0.95	Dec 16, 2015	DRAFT - First full round of comments (TRs, FES, PMs) incorporated
0.96	Dec 17, 2015	DRAFT - Minor edits for MLC projects. Sent to CPUC EAR and Ex Post team, SW programs team. (not released broadly)
1.0	Feb 11, 2016	Version 1.0; Significant clarifications and added citations; many additional stakeholder comments incorporated.
1.1	May 19, 2016	Version 1.1; Summary of edits: <ol style="list-style-type: none"> 1. Several RCx activity clarifications. 2. Regressive baseline clarified. 3. Boiler baselines updated/clarified. 4. Double dipping addressed. 5. Hold on VRF systems added. 6. Hold on Greenhouse projects clarified to allow lighting-only projects. 7. Non-IOU fuel source guidance updated. 8. Consolidated calculation and documentation requirements, removed Best Practice designation from these items. 9. Removed Show Stopper issues as independent rule. Note items that were included in this rule are otherwise addressed in the Rulebook and in PG&E's procedures. 10. Several Regional Direct Install program clarifications. 11. Other minor additions and clarifications.
1.2	December 9, 2016	Version 1.2; Summary of edits: <ol style="list-style-type: none"> 1. Clarification on issuing project approval before release from EAR. 2. Clarification for definition of REA and addition of examples of REA measures. 3. Clarification on splitting an approved project into phases. 4. Clarification on negative savings in SBD projects. 5. Added information for embedded (indirect) energy savings for water saving projects. 6. DEER hours for lighting in DEER building types clarification. 7. DEER methods and assumptions for custom measures savings calculations clarification. 8. Added reference for DEER weather files. 9. Added requirement to use the available standard calculation tools. 10. Added exception for enhanced incentives for deemed measures in SGP programs. 11. Sunset of steam trap measure. 12. Added description of the elements of an acceptable invoice. 13. Clarification on definition of standard practice baseline and

		<p>addition of link to ISP studies.</p> <p>14. Other minor additions and clarifications.</p>
1.3	February 2, 2017	<p>Note: this revision does not include any changes specific to AB802 or D.16-08-019. A future rulebook update will address any changes as appropriate.</p> <p>Version 1.3; Summary of edits:</p> <ol style="list-style-type: none"> 1. Correction of error in definition of REA. 2. Correction in minimum project size rule. 3. Correction of sunset date for steam trap measure. 4. Added clarification for regressive baselines. 5. Added clarification on ISP by default and use of standard practice baselines. 6. Added definition of NEW measure type, which includes expanded capacity. 7. Added clarification about repairs. 8. Added clarification of requirement to provide evidence of program influence. 9. Added early policy review for high impact projects. 10. Other minor additions and clarifications.
1.4	December 4, 2017	<p>Version 1.4; Summary of edits:</p> <ol style="list-style-type: none"> 1. Revised ER preponderance of evidence requirements to align with Resolution E-4818. 2. Added to-code ER and AOE measure eligibility and requirements. 3. Added clarification for phasing of a project into multiple projects. 4. Removed exception which allowed monitoring to establish lighting hours in some DEER buildings. 5. Added clarification to use DEER methodologies or savings values for DEER measures in DEER buildings. 6. Removed steam trap measure requirements as measure has been sunset. 7. Added BRO measure type definition and revised several sections to accommodate BRO measures. 8. Retrofit Add-on has been replaced with Add-on Equipment (AOE). 9. Added revised definitions of Normal Replacement and Early Retirement. 10. Revised exception to not allow lamp replacements in Direct Install programs other than LED T8 replacement lamps. 11. Added clarification regarding reductions of natural gas used as a material being ineligible. 12. Revised existing conditions baseline requirements to allow T12 lamps in Direct Install programs. 13. Removed exception for SBD for requirement to revise savings calculations with post-installation data. 14. Added clarification of requirements for changes in project scope. 15. Removed 10% M&V incentive adder. 16. Added clarifications regarding M&V plan requirements.

1.5	August 21, 2018	Version 1.5; Summary of edits: <ol style="list-style-type: none"> 1. Revised minimum project size from \$2,000 incentive to \$5,000 incentive (\$5,000 to \$10,000 for SGP). 2. Revised free rider screening requirement. The Free Rider Screening Form is no longer required, but project developers are still required to screen for free ridership. 3. Revised language for influence requirement for clarification. 4. Added baseline requirement for NR and NEW Outdoor and Highbay/Lowbay LED lighting measures. 5. Revised cost-effectiveness requirement to apply to all custom measures. 6. Revised Deemed must go Deemed requirement for clarity. 7. Removed moratorium on greenhouse projects. 8. Revised language regarding like for like replacements for clarity. 9. Clarification that incentives for BRO measures are capped at 50% of measure cost. 10. Added guidance for justification of RUL for BRO measures. 11. Clarification that ERC must be greater than zero for ER measures.
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1. Introduction

1.1. Applicability

The PG&E Customized Energy Efficiency Policy & Programs Rulebook (Rulebook) contains a compilation of rules, requirements, and best practices that apply to Customized Program Activity within the PG&E Non-Residential Customized Energy Efficiency Program Offering (PG&E’s Customized Offering). This document applies to all non-residential customized program activity, including CORE, third party programs, regional direct install, and government partnership projects (both statewide and local).

There are likely to be rules listed in this document that some subprograms are exempt from in certain conditions. This Rulebook should capture all exceptions; if there is an exception not listed here, PG&E Customized stakeholders will not recognize the exception. Program managers, implementers, and other stakeholders are compelled to notify the authors of this document and provide documentation of the source or justification for the addition of the exception.

1.2. Source Documents

This Rulebook does not attempt to create new program rules; it is a compilation of existing policies and procedures gathered from a host of sources, listed below:

- a. CPUC Rulings (e.g. R.09-11-014 – EE Policy Manual V5; note that in this nomenclature “09” indicates the year 2009; “11” indicates November)
- b. CPUC Decisions (e.g. D.12-05-015)
- c. CPUC Guidance Documents
- d. Ex Ante Review Dispositions (e.g. Ex Ante Review Disposition 435; noted here as X435)
- e. Statewide Policy and Procedures Documents (e.g. Statewide Customized Offering Procedures Manual for Business)

Nearly all program policies and procedures can ultimately be linked back to CPUC Ruling or Decision language. However, many rules listed in this document come from other sources. These other sources typically provide clarifications of CPUC Rulings and Decisions as they apply to PG&E's Customized Offering.

Rulings and Decisions can be found online: <http://docs.cpuc.ca.gov/advancedsearchform.aspx>

For any other documents, please check the Custom Implementation Team Chatter group on Energy Insight or contact the Custom Implementation Team (CustomImplementation@pge.com).

1.3. Version Information

The Rulebook is intended to be a living document that will be updated for clarity and accuracy over time. In this release, there are several areas noted that need more information. Noted deficiencies are typically indicated within chevrons, e.g. <TBD>. In most cases, this information exists, but it has not been definitively determined at the time of this release.

1.4. Abbreviation key

The following abbreviations are used throughout the document:

AOE – Add-on Equipment

BRO – Behavioral, Retrocommissioning, and Operational

CDF - Coincident Diversity Factor

CIT – Custom Implementation Team

CLT – PG&E Custom Lead Team

CMPA - Custom Measure and Project Archive

CNC – Commercial New Construction

Code – Title 24, Title 20, etc.

CPUC – California Public Utilities Commission

CR – Customized Retrofit

CS – California Public Utilities Commission Staff

DEER –Database for Energy Efficient Resources

DI – Direct Install

EAR – Ex Ante Review

EE – Energy Efficiency

ER – Early Retirement

ERC – Early Retirement Cost

EUL – Effective Useful Life

FMC – Full Measure Cost

HVAC – Heating, Ventilation, and Air Conditioning

IMC – Incremental Measure Cost

IOU – Investor Owned Utility

IPMVP - International Performance Measurement and Verification Protocol

ISP – Industry Standard Practice

MLC – Modified Lighting Calculator

M&V – Measurement and Verification
NR – Normal Replacement
PA – Program Administrator
PAC – Program Administrator Cost Test
PPP – Public Purpose Program
RCx – Retro-Commissioning
ROB – Replace on Burnout
RUL – Remaining Useful Life
SBD – Savings by Design
SIR – Savings to Investment Ratio
Statewide P&P – Statewide Customized Offering Procedures Manual for Business
Title 24 - CA Building Energy Efficiency Standards, Title 24 – Part 6
TRC – Total Resource Cost Test
WEN – Water-Energy Nexus

2. Project Eligibility

2.1. The application must be complete

Details: A program application (previously also known as a participation agreement) must be signed and dated. In addition to customer and site information, a completed application package must include a savings summary that identifies the following for each proposed measure:

- a) Code/ISP baseline
- b) For Early Retirement claims: Documentation to support a preponderance of evidence for the use of existing equipment baselines
- c) Estimated full measure cost and incremental measure cost
- d) Preliminary savings calculations
- e) Preliminary incentive payment estimates
- f) A proposed M&V plan

Notes: Subprograms may collect signatures from customers at different stages of project development; the signature portion of an application may be collected before or after a savings summary has been completed. However, the application is not considered complete until both the signed application and savings summary have been collected. The Custom Program Application, which a customer signs, may also be called an application, program participation agreement, incentive agreement or similar name. The signature represents the customer's understanding of their commitment to the Terms and Conditions associated with the applicable program.

Note for SBD: A savings summary can be provided by the customer or the design team after the signed application is submitted in the form of an energy efficiency report. This savings summary is sent along with the first draft of the design documents.

Effective Dates: Program inception

Rule Source: Statewide P&P

2.2. The customer must pay PPP surcharge

Details: Customer must pay the Public Purpose Program (PPP) surcharge on the gas or electric meter for which the energy efficient equipment is proposed. The PPP surcharge information can be found on the utility bill.

Exception 1: There is an exception for customers who are exempt from paying gas PPP per Public Utilities Code Section 896. These exempt PG&E customers include the United States (Federal facilities), United States Coast Guard, the American Red Cross, and Indian reservations.

Notes: See the Non-IOU supply section for information on projects with on-site self-generation (e.g. solar PV, wind, small hydro, natural gas, biogas, biomass, etc) or other non-PG&E supply.

Both New Construction and Savings by Design projects may not have an existing account. For these projects, PPP is verified at project closeout. Because PPP is verified at the end of the project, it is highly encouraged for project teams to inquire about PPP, onsite generation, etc, before and during project development.

Effective Dates: Program inception

Rule Source: Statewide P&P, Public Utilities Code Section 896.

2.3. Minimum project size

Details: The calculated incentive associated with custom measures at time of project application must be greater than or equal to \$5,000 to qualify for the Customized Incentives program. Statewide Government Partnerships have a minimum project size of \$10,000. Applications received with calculated incentives less than the applicable minimum will be rejected.

Exception 1: This is currently not applicable to SBD, APEP, and Regional Direct Install offerings.

Effective Dates: June 1, 2018.

Rule Source: EE Update dated May 18, 2018

3. Influence

3.1. Free rider screening

Details: Project developers are required to screen projects for free ridership. A free rider screening assesses whether the customer would have implemented the measure if the Program had not intervened. Screening for free ridership needs to be conducted prior to offering technical assistance or incentives. Evidence of free rider screening must be included in the influence documentation.

Exception 1: For Savings By Design, demonstration of Influence is provided through the required kickoff meeting. See Section 3.7 for influence documentation.

Notes: The CPUC definition of free riders is “Program participants who would have installed the program measure or equipment in the absence of the program”.

Effective Dates: Program inception

Rule Source: Energy Efficiency Policy Manual

3.2. Customer must receive approval from PG&E before ordering equipment

Details: Measure equipment may not be ordered, purchased, or installed before PG&E has provided written approval/notice to proceed. This approval is either provided by the project record in Energy Insight advancing to “Approved for Installation” stage or can be given by a formally granted exception as described below.

Exception 1: Pre-ordering of long lead time equipment before project approval is permissible with written PG&E approval in the form of an approved Exception Request. Customer may be asked to demonstrate that the equipment has a long lead time. This approval typically only applies to ordering equipment – not demolition or installation. Approval of preorder requests will be considered when all three of the below considerations are met:

- (1) PG&E or implementer influence on the project is clearly demonstrated.
- (2) The customer, project and measure are clearly determined to be eligible.
- (3) PG&E has confidence in the early savings claims calculations.

Exception 2: Regional DI implementers may provide approval to order equipment on PG&E’s behalf for projects utilizing the MLC, but only after the Participation Agreement has been signed by the customer.

Effective Date: Program inception; preordering exception guidelines added in 2015.

Rule Source: Statewide P&P

3.3. CPUC staff must have an opportunity to review projects before incentive agreements are executed

Details: Project approval shall not be issued before a project is either released from CPUC Ex Ante Review (EAR) two weeks after being submitted on the CMPA project list or approved by an EAR disposition, or otherwise allowed to proceed by the CPUC EAR team.

Exception 1: Regional DI lighting projects utilizing the MLC may execute incentive agreements prior to CS CMPA review. Projects must still appear on the CMPA but may be posted concurrently with execution of the incentive agreement.

Note 1: The applicability of this rule is under evaluation for APEP projects.

Note 2: Approving the project effectively finalizes pre-installation savings claims and incentive amounts and gives the customer authorization to proceed with installation. The pre-installation Ex Ante savings claims estimates are linked with the EAR process.

Effective Dates: July 22, 2011

Rule Source: D.11-07-030 Attachment B, 3/21/2013 CS agreement on lighting tool projects

Rule Source reference text:

D.11-07-030: "For all projects, including those selected by CPUC Staff for ex ante review, project installation shall not begin until complete documentation has been compiled into the PA CMPA, ex ante savings parameter estimates have been developed and reviewed by the PA, if the project has been selected for review the complete project documentation has been uploaded to the CPUC CMPA such that Commission Staff have an opportunity to review and approve project documentation, and a PA/customer agreement has been executed by both parties. Any exception to this shall be approved in advance by Commission staff."

3/21/2013 CS agreement: "Custom lighting projects may avoid delay associated with the CMPA submission and selection process and by using savings values produced by a Commission reviewed custom lighting tool (or an IOU reviewed derivative certified to be equivalent). However, the standard custom project 0.9 GRR must be applied to all such ex ante values – subject to implementation reviews as seen in step 3. If the methodology in the Commission staff reviewed lighting tool is found incorrect, it may be changed on a prospective basis. If the methodology in an IOU reviewed/certified lighting tool is found by Commission staff to not be in compliance with the Commission reviewed lighting tool, that derivative tool and all project ex ante values calculated from the non-compliant tool shall be changed retroactively to be in compliance.

Custom lighting projects having ex ante values calculated with a reviewed lighting tool will be available to be pulled for review by Commission staff at any time and subject to verification of input parameters. These include, but are not limited to the number of bulbs/sockets/fixtures upgraded/replaced, use of early retirement vs. ROB/NR/NC assumptions, and selecting the correct technologies being replaced and what is replacing them. If any errors are found corresponding adjustments to the savings values will be made retroactively."

3.4. Installation cannot begin without PG&E approval/owner's agreement

Details: The project is disqualified if installation of the energy efficiency measure is started without written approval from PG&E, which is typically provided in the form of a fully executed project approval or Owner's Agreement. Fully executed agreements are required in applicable programs.

Exception 1: Regional DI implementers may provide approval to install equipment on PG&E's behalf for projects utilizing the MLC, but only after the Participation Agreement has been signed by the customer.

Effective Dates: <need 3P transition date and language>

Rule Source: Statewide P&P, X436

3.5. Complete project before Installation Deadline

Details: The default allowance to complete a Customized project is one year from the date of the project approval; new construction projects (e.g. Savings by Design projects) are allowed four years from the project approval by default. Many project types, such as large phased projects, may require more time to be completed – requests to extend the deadline are handled through the PG&E Exception Request process. If a project has not been completed by its installation deadline, the customer may be required to reapply under current program rules and baselines.

Notes: To reduce uncertainty for the customer and PG&E, extension requests should be made as soon as it becomes apparent that one is needed, ideally before a project approval is issued.

Effective Date: Program inception

Rule Source: Statewide P&P

Rule Source reference text:

Statewide P&P: “All projects must be installed and fully operational one year from application approval. If project is not fully installed and operational by the specified installation deadline, the agreement is subject to cancellation. Extensions may be requested and granted at the Utility Administrator’s discretion.”

3.6. Substantial Change in Project Scope Requires Review

Details: If the scope of a project changes substantially from what was identified in the project application review, the change must be disclosed to PG&E CIT. Substantial changes include significant modifications to the proposed equipment type, size, quantity, configuration, the expansion of a project to include additional retrofits, or the splitting of a project into multiple phases. The revised project scope and supporting calculations are subject to an additional review and may require a new agreement prior to the removal of existing equipment/systems or the installation of the replacement equipment/systems. If the scope of work changes after the contract is issued, but before the work is completed, notify PG&E immediately. A revised project approval may be required to capture the new scope.

For projects that are split into multiple phases after approval as a single project, each additional phase must be created as a new project and must be reviewed for policy requirements and program rules in effect at the time the new project is created and reviewed and must receive approval before equipment is purchased or installed. In addition, each additional phase or project must be submitted to the CPUC CMPA for selection and be either released or approved by CPUC staff. If the original project was selected for Ex Ante Review, then all phases are considered selected for Ex Ante Review.

Exception 1: Regional DI implementers may require resubmittal at their discretion.

Effective Date: Program inception

Rule Source: Statewide P&P

3.7. Program influence must be documented

Details: A narrative and supporting evidence must be provided to document the actions performed by the program that induced the customer to implement the energy efficiency project. The narrative should include the project developer’s engagement and communications

with the customer, the customer’s decision-making criteria, and the project timeline, and should describe how the project was initiated, how the measure was identified, the alternative viable options that also meet the customer’s needs, and the energy and non-energy benefits. Supporting evidence with time stamps must be provided to support the narrative. The supporting evidence may include one or more of the following:

- Marketing materials, including website links, or other communication about program details. Marketing materials provide program details and allow program staff to intervene and upsell EE measures.
- Audits or site visit results where EE opportunities are assessed. Site visits can illuminate additional EE opportunities and validate/quantify known opportunities.
- Energy savings and/or financial calculations for EE measures. Showing the value of EE savings and effects of incentives can motivate a customer to pursue a project they otherwise would not have in absence of program intervention.
- Email correspondence or meeting minutes with timestamps that discuss any of the above or that support the narrative.
- Customer decision-making policies such as corporate sustainability policy or investment criteria.
- Internal customer communications or communications with design team that discuss design alternatives, cost estimates, or the customer’s decision making process.

Effective Date: Program inception

Rule Source: R.09-11-014 EE Policy Manual v5

Rule Source reference text:

R.09-11-014: “The utility programs should strive to push customers to augment projects to include actions that would not occur without incentive support...”

4. Energy Calculations

4.1. Always include direct negative energy/demand savings

Details: All direct savings, either positive or negative, must be included in savings claims and incentive calculation. Incentives do not generally include or consider indirect/interactive savings, whether positive or negative (e.g. negative therms accrued from electric efficiency measures do not penalize the customer).

Exception 1: Incentives for Savings By Design projects are not reduced by negative savings because whole building analysis may result in negative savings that are a combination of direct and indirect savings.

Exception 2: For projects with a water savings component, embedded (indirect) energy savings can be claimed (see rule 4.11 on Water-Energy Savings).

Effective Date: Program inception

Rule Source: Statewide P&P, X305

4.2. Use DEER hours for lighting in DEER building types

Details: Use DEER operating hours for lighting projects within DEER building types.

Exception 1: Projects utilizing an IPMVP Option C or Option D analysis do not use DEER hours for lighting, provided that interactive effects are still accounted for in the analysis.

Effective Dates: Projects committed on or after April 3, 2015, Exception 2, which allowed custom operating hours in some DEER buildings, was removed in Version 1.4 due to disposition guidance in PGE-16-T-I-157.

Rule Source: D.12-05-015, PG&E EE Update Guidance on 4/2/2015; PGE-16-T-I-157

Rule Source reference text:

D.12-05-015: "Custom lighting measures and projects shall utilize these DEER methods and values to the extent possible."

4.3. LED Lighting: Standard Practice LED Baseline or Partial LED Baseline

Details: For NR and NEW Outdoor and Highbay/Lowbay lighting measures including parking garages, standard practice baselines have been defined by Commission Staff dispositions. Reference the LED Outdoor and Highbay/Lowbay lighting baseline calculators for determining baseline wattages.

Exception 1: New construction projects that include non-lighting measures and use a whole building analysis may continue to use Title 24 baselines.

Effective Date: July 6, 2018 through December 31, 2018. New DEER baselines will be effective January 1, 2019.

Rule Source: 2018 DISPOSITION UPDATE FOR HIGH AND LOW BAY LED FIXTURES BASED ON RESUBMISSION OF WORKPAPER PGECOLTG178 REVISION 3 IN RESPONSE TO A 2017 PHASE 2 DISPOSITION, CPUC, May 7, 2018

2018 OUTDOOR LIGHTING DISPOSITION UPDATE COVERING WORKPAPER RESUBMISSION IN RESPONSE TO A 2018 PHASE 1 DISPOSITION, CPUC, May 7, 2018

Statewide Memo on Custom effective dates for LED lighting Workpaper Dispositions, CPUC, June 6, 2018.

4.4. Use DEER interactive effects for savings claims (but not for incentives)

Details: Calculate electric and therm savings and impacts using the appropriate DEER interactive factor.

Exception 1: For SBD, interactive effects are calculated through the modeling tools.

Rule Source: R.09-11-014 EE Policy Manual v5

Rule Source reference text:

R.09-11-014: "...measures, such as lighting and refrigeration, have a secondary impact on heating and cooling loads and thus heating and cooling energy consumption. These "interactive effects" are appropriate for incorporation into DEER. The gas and electric IOUs shall include those effects in non-DEER work papers and custom measures and projects calculations."

4.5. Account for chiller efficiency degradation

Details: In the savings analysis, account for the degradation in chiller efficiency at higher condensing temperatures in order to make the peak kW calculation accurate.

Exception: Not applicable for SBD or other new load projects.

Effective Dates: August 27, 2013

Rule Source: X241

4.6. Submit boiler efficiency tests

Details: The code/ISP baseline for boilers, like all other measures, must consider the efficiency of the existing equipment (see regressive baseline rule). Boiler projects must always substantiate the code/ISP baseline with the most recent boiler efficiency tests performed (must be within one year of the PA).

The code/ISP baseline for boilers is always greater of the existing boiler efficiency test results and applicable baseline efficiency indicated below:

- a) Industrial: 80% minimum combustion efficiency.
- b) All: applicable code minimum boiler combustion efficiency requirements (e.g Title 24, ASHRAE Std 90.1, etc), at time of permit.

Effective Dates: December 16, 2013; efficiency test date requirements added 5/18/2016.

Rule Source: X330, X338

4.7. Use DEER values and methodologies

Details: DEER savings values must be used for any measures in DEER building types that are active measures in DEER.

Note: D.12-05-015 requires custom projects to incorporate DEER methods and assumptions for custom measures with savings calculations included in DEER. An example where this rule applies is water-cooled chillers. Projects proposing water-cooled chillers in DEER buildings must use DEER savings values.

Exception: Not applicable for SBD. SBD uses Title 24 schedules and inputs. <subject to change>

Effective Dates: May 10, 2012

Rule Source: D.12-05-015, PGE-16-T-I-0093

Rule Source reference text: “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.”

4.8. Use DEER Coincident Diversity Factors (CDF) methodologies

Details: “For custom measures and projects the DEER methods for calculating CDF and HVAC interactive effects are to be utilized.”

Exception: Not applicable for SBD.

Effective Date: Program inception

Rule Source: D.12-05-015

4.9. Use DEER peak demand period

Details: The DEER demand impact is defined as the average demand impact, for an installed measure, as would be “seen” at the electric grid level, averaged over the nine hours, between 2PM and 5PM, during the three consecutive weekday period which contains the highest average temperature during the 12PM to 6PM period for those three days. For analysis using the CEC adopted Title 24 weather files, which are used as the DEER reference weather files, the dates that correspond to this definition, are provided in the DEER documentation. DEER methods utilize the kWh consumed during each hour as representing the average demand for that hour. The DEER method then calculates the average of the nine average demand values for the defined peak period hours. When the peak electric demand savings for a custom measure or project is being determined based upon metering during current weather conditions, the metered data would need to be projected into the DEER reference weather files or the metered data would need to be collected during a period which represents the equivalent conditions as the DEER peak definition. A current weather period which represents the equivalent conditions as the DEER peak definition period may not be the same dates as for the DEER reference files.

<http://www.deeresources.com/files/DEER2013codeUpdate/download/DEER2013-Weather-Data-Comparison.zip>

http://www.deeresources.com/files/DEER2013codeUpdate/download/DEER2014UpdateDocumentation_2-12-2014.pdf

Exception: Not applicable for SBD. SBD uses Title 24 peak demand. <subject to change>

Note: There should be zero DEER peak demand savings for lighting that is only on at night. Do not claim or pay incentives for demand savings for exterior lighting measures.

Effective Dates: Program inception

Rule Source: D.12-05-015, Statewide P&P, X365

4.10. Use Standard PG&E Calculation Tools

Details: PG&E standard calculation tools, such as the following, must be used when available for applicable measures:

- Pool Pumps – Addition of VFD to commercial pool pump to reduce flow during unoccupied hours

- Pumps – Addition of VFD to pumping applications
- Air Compressors – Few measures are available above-code, but to-code ER and AOE measures are now available
- Lighting
- HVAC
- Refrigeration

Notes: PG&E standard calculation tools can be found on the Energy Insight Communities chatter group, Custom Training and Resources

Effective Date: October 1, 2016

4.11. Water-Energy Savings Calculations

Details: Projects that save water may use the Water-Energy Cost-Effectiveness Calculator developed by Navigant and GEI Consultants under contract with the CPUC to calculate the embedded energy (energy used to pump and treat water and wastewater upstream and downstream of the customer) from water savings on a customer’s site. A customer must receive water from an off-site source (i.e. municipal and irrigation district supplied).

Notes: Water savings documentation must be submitted and the Calculator must be included.

Effective Dates: Projects completed after February, 2016

Rule Source: D. 15-09-023

4.12. Calculations Must Be Reviewable

Details: All attachments must be readable. All calculations must be transparent. For complex calculations, provide the actual equations (proposed formulas) that will be used to calculate the savings impacts. Provide a non-hard coded and unlocked energy savings calculation workbook for the proposed measures. The proposed formulas are required to be provided in a written format. Simply referring to an Excel spreadsheet where the formulas are found in cells is not an acceptable method to convey this information.

For projects where an energy model is submitted, appropriate explanation of the model inputs and outputs must be provided. Energy models should have the software version clearly indicated in the project files.

Notes: PG&E provided calculation tools used as directed do not require additional explanation at the project level.

Effective Dates: June 26, 2014

Rule Source: X436, X205 (Phase I), “PGE-15-C-I-0005_2K1400013946_Industrial Gas Process Modifications”

Rule Source reference text:

From “PGE-15-C-I-0005_2K1400013946_Industrial Gas Process Modifications”: Provide project documentation in a readable format. CPUC Staff notified the PA that the “Salesforce” format document was difficult to read, and require that future documentation for all projects be presented in an easily readable format that does not require dramatic increases in screen zoom and other unconventional manipulation.

4.13. [BEST PRACTICE] Consolidate workbooks preference

Details: Consolidate all calculations into the least number of workbooks and spreadsheets feasible to manage the data.

Notes: This practice allows for a more streamlined review of a project.

Rule Source: X356

5. Measure Eligibility

5.1. To-code/ISP and above-code/ISP measures

Details: Generally, retrofit measures are required to be more energy efficient than the applicable code/ISP baseline efficiency. However, certain programs may include 'to-code' ER and AOE measures (i.e. measures that only meet, but do not exceed, code or ISP). Any measure technology that matches a DEER definition for a code baseline is considered a to-code measure.. To-code/ISP ER and AOE measures are eligible for reduced incentive rates.

Note 1: The to-code reference is the code requirement or standard practice that would apply if the underlying system, on/into which the measure is being installed, were to be replaced.

Note 2: The code baseline for SBD projects is the version of Title 24 that is in effect when the project is submitted for permit.

Effective Dates: September 13, 2017

Rule Source: Statewide P&P; D-16-08-019, Resolution E-4818

5.2. Custom measures must pay back over their measure life

Details: All custom measures must pay back over their measure life, the lifetime savings must exceed the measure cost.

Note:

- For NR: Lifetime savings = 1st baseline savings * EUL
- For ER: Lifetime savings = 1st baseline savings * RUL + 2nd baseline savings * (EUL – RUL)
- Only include energy efficiency related measure costs
- Use a simple SIR – do not account for time value of money
- Use either the customer's blended rate or actual rates in savings estimate
- Use the correct measure cost basis (ERC for ER, FMC for AOE, IMC for NR and NEW)
- Use savings value approved at pre-installation review (projects that become less cost-effective in post-installation due to increased final costs or reduced final savings do not become ineligible)

Effective Date: January 1, 2018

Rule Source: PG&E EE Update, December 19, 2018

5.3. Regressive baselines are not permitted

Details: If existing conditions are more efficient than the code/ISP baseline, savings must be calculated based on the existing conditions. This is related to the like-for-like rule (below), which states that installed equipment must be more efficient than the existing equipment.

Note: The terms “regressive baseline” and “site-specific baseline” (aka, “customer standard practice” are often incorrectly used interchangeably. The former is more of a calculation issue, while the latter is more of an influence issue.

Effective Dates: Program inception

Rule Source: Statewide P&P

5.4. For replacement measures (NR, ER), existing equipment must be decommissioned and removed

Details: Existing equipment must be decommissioned and removed from site prior to Installation Review approval. Decommissioned equipment must not be reused, resold, or retained for backup purposes unless approved through a PG&E Exception Request. Existing equipment cannot be decommissioned before PG&E approval for installation.

Notes: N/A for SBD.

Effective Dates: Program inception

Rule Source: Statewide P&P

5.5. Five year operation for retrofit measures

Details: New equipment or system retrofits must provide energy savings for a minimum of five years. This equates to an EUL of greater than or equal to 5 years for all retrofit measures.

Exception 1: BRO measures that do not involve new equipment purchases are not subject to this requirement.

Exception 2: Regional DI lighting measures that utilize the MLC must provide savings for 5 years or the EUL of the installed measure, whichever is less.

Effective Dates: Applications received after January 1, 2015. *Prior to that date*, savings must be provided for a period of 5 years or the EUL of the measure, whichever is less.

Rule Source: Statewide P&P, D-16-08-019, Resolution E-4818

5.6. Implementation of efficient controls

Details: Customized retrofit incentives are generally provided to support installation of new, higher efficiency equipment, including controls. Measures that use existing control systems and save energy primarily due to operational changes (e.g. control recoding, reprogramming, setpoint changes) may be eligible as BRO measures.

Effective Dates: Program inception

Rule Source: Statewide P&P, D-16-08-019, Resolution E-4818

5.7. Measures must be permanently installed

Details: Measures that are not permanently installed or can be easily removed are ineligible for Customized incentives (e.g. re-lamping only measures, cord-and-plug or movable equipment).

Exception: Re-lamping with LED T8 replacement lamps qualified for Regional DI projects utilizing the MLC; the code baseline for such measures must be consistent with the applicable workpaper and the 2013-2014 Lighting Disposition.

Note: Leased equipment may be eligible provided that persistence can be demonstrated across the claimed EUL, and that measure cost documentation between the baseline and installed equipment is represented appropriately. A PG&E Exception Request must be submitted and approved prior to eligibility.

Effective Dates: Program inception

Rule Source: Statewide P&P, X069

5.8. Deemed must go deemed

Details: All measures that have calculation methodologies approved in workpapers or DEER must adopt those methodologies.

Exception 1: Early Retirement measures with supporting Preponderance of Evidence. Note: There are few if any deemed Early Retirement measures, therefore this is not an exception, but listed here as such for clarity.

Exception 2: Interior parking garage lighting measures are allowed in custom though technically eligible in deemed as exterior lighting.

Exception 3: LEDA measures that incentivize the top end of available products (e.g. Tier I and Tier II LED) may be processed as custom.

Exception 4: Deemed measures can be calculated and incentivized through the SBD program. If the entire project consists of deemed eligible measures (i.e. a Systems Approach project), then the project must go deemed.

Exception 5: If a measure qualifies for deemed but is part of a greater EE system that is being installed (e.g. deemed measure being an efficient motor without controls, proposed EE measure being an efficient motor plus controls), the project may be processed through the custom program.

Exception 6: If the workpaper for a deemed measure does not have an applicable building type for a project (including the COM and OTR building types), the measure must go through custom.

Exception 7: Deemed measures can be calculated and incentivized through Statewide Government Partnerships programs (SGP). All projects with measures in the deemed catalog must have savings calculated according to deemed methodologies on a measure-by-measure basis. However, since the SGP program offers specific enhanced incentives, the incentive may be calculated at the enhanced rate on a measure-by-measure basis. Projects that are deemed measures only or a combination of deemed/customized measures are eligible.

Notes: Note the language "...must adopt the deemed methodologies." A deemed application/project need not be submitted. Deemed measures can be processed through the custom programs as long as the deemed savings values are used and deemed rebate amounts are not exceeded. Incentives or rebates associated with deemed measures do not contribute toward the minimum project size criteria.

Effective Dates: Applications received after Feb 2014; MLC projects after Dec. 31, 2015.

Rule Source: Statewide P&P

5.9. No double dipping

Details: Measures incentivized through any Customized program, must not receive incentives or claim savings through any deemed program; this includes all downstream, midstream, and upstream offerings.

Effective Date: Program inception

Rule Source: X500

5.10. EUL maximum of 20 years

Details: The longest allowable EUL is 20 years.

Exception 1: Schools (K – 12 and CC) are allowed to use an EUL of up to 30 years for existing equipment only. The EE measure EUL is limited to a maximum of 20 years.

Exception 2: Water-Energy Nexus measures have an available maximum expected useful life (EUL) of 30 years for removed equipment.

Note 1: This primarily affects savings claims into the future; however, this limit has an effect on Early Retirement claims. When installed measures have exceed their EUL, additional evidence may be necessary to demonstrate that the equipment has RUL ≥ 1 .

Note 2: Whole Building analyses report EUL as a weighted average of the installed measures, however individual EULs must be provided.

Effective Date: Program inception, school exception effective October 2014.

Rule Source: X434, D.14-10-046, R.15-09-023

5.11. HOLD on high emissivity coating on furnace refractory measures

Details: “CPUC Staff requires a hold be placed on any applications with this measure until further review can be performed. The IOU must not execute any incentive agreements for projects with this measure until instructed by CPUC staff.”

Effective Dates: Applications submitted after December 24, 2014

Rule Source: X329

5.12. HOLD on plastic recycling machines

Details: “For future projects: Determine both the new construction (NC) and retrofit market industry standard practice (ISP) for plastics recycling machines, since it appears that available equipment choices are limited. Any remaining projects in the pipeline, (either NC or retrofit), shall be placed on hold until the IOUs complete a low-rigor ISP study to assess and determine proper NC baseline.”

Effective Dates: Applications submitted after December 16, 2014

Rule Source: X435

5.13. HOLD on variable refrigerant flow

Details: Variable refrigerant flow (VRF) measures for existing building projects are on hold pending approved calculation methodology for customized retrofit projects. VRF systems in SBD

may be included only for the purposes of setting the incentive rate in the compliance run, but must be modeled as neutral for the whole building savings claim.

Note: VRF measures are available through mid/up-stream offerings for some building types.

Effective Dates: Applications received after May 20, 2016

Rule Source: n/a

5.14. No repairs or routine maintenance allowed

Details: Repairs and routine maintenance activities are not eligible for incentives, including compressed air leak repair. A repair may include, but is not limited to, replacing a component to restore the equipment or system to its original functionality.

Exception: RCx projects submitted to CPUC Ex Ante Review team in April 2015 as grandfathered with prior RCx program rules.

Notes: Some RCx activity may be interpreted as advanced maintenance; PG&E is currently determining the eligibility of measures that straddle the line between advanced and routine maintenance. Advanced maintenance is currently considered to be maintenance that is only discoverable through a thorough investigation, and is not readily identifiable through a customer's regular practices (e.g. visual inspection).

Effective Dates: Customized Retrofit / Customized Incentives since Program inception. RCx effective date is April 10, 2014.

Rule Source: <TBD for compressed air>

5.15. Like-for-like retrofits are not eligible

Details: Proposed NR, ER, NEW, and AOE measures must be more efficient than existing equipment. Installing equipment that is of the same efficiency as the existing equipment is defined as installing like-for-like, which is not eligible for incentives.

Note: BRO measures are by definition like-for-like and are eligible as they are not considered retrofits.

Effective Dates: Program inception

Rule Source: D.12-05-015

Rule Source reference text:

D.12-05-015: "The Commission 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."

5.16. Savings claims above code/ISP are based on an equivalent level of service

Details: Savings claims shall be generated based on equipment choices that operate at a comparable level of service as the EE measure. If the market does not support a viable and comparable baseline solution and the EE measure provides a different level of service compared to the selected baseline, savings must be normalized to comparable levels of service.

Note 1: Right sizing projects and their associated savings may be eligible for the RUL period for Early Retirement projects.

Note 2: For lighting projects, including those utilizing the MLC, the code baseline fixture must provide an equivalent level of service to the installed fixture. Generally, the code fixture either matches the DEER code baseline or provides approximately similar light level as the proposed fixture.

Effective Dates: Program inception

Rule Source: D.12-05-015, Standard Practice Manual, Statewide P&P, PGE_MLC_Review-21Dec2015.docx.

Rule Source reference text:

D.12-05-15: "Measure and baseline equipment choices must provide equivalent service levels. By this we mean reliable service that can be delivered over the life of the product under normal operating conditions."

Standard Practice Manual: "An energy efficiency improvement can be defined as reduced energy use for a comparable level of service, resulting from the installation of an energy efficiency measure or the adoption of an energy efficiency practice. Level of service may be expressed in such ways as the volume of a refrigerator, temperature levels, production output of a manufacturing facility, or lighting level per square foot."

5.17. Savings of natural gas used as a material

Details: Any reduction in natural gas used as a material (i.e. ingredient used to make fertilizer, antifreeze, plastics, pharmaceuticals and fabrics; or used to manufacture chemicals) resulting from implementing a measure is ineligible to be claimed/incentivized as an energy efficiency measure.

Reduction in natural gas used as energy (i.e. combusted in a furnace) is eligible to be claimed/incentivized as an energy efficiency measure.

Effective Dates: Program inception

Rule Source: D.05-04-051, EE Policy Manual, SW Memo Natural Gas as a Material 2017-11-17

5.18. MLC specific requirements

Details: For each MLC measure with an Accelerated Replacement (AR) claim, Implementers are required to take and retain photos of the pre-existing fixtures, as outlined below:

- Photo of the existing lamp, lamp wattage, and fixture housing
 - o A photo of the lamp and lamp wattage may be taken from back-up inventory or failed lamps, if available
 - o A photo of the ballast is only necessary if high light output is claimed
- Photo of the area/space of the applicable measure with lamps energized

Photos are not required for Replace on Burnout (ROB) measures. Costs shall be provided for each record in the calculator. Costs shall be provided for code baseline/ISP and measure technologies.

Effective Date: Refer to MLC photo policy document.

Rule Source: CS Preliminary Review Disposition for "Modified Lighting Calculator" Measures, MLC Photo Policy

5.19. Provide DEER EUL for each/all measures

Details: Provide the DEER EUL for all measures, or the source of EUL if DEER EUL is unavailable.

Notes: N/A for SBD

Effective Dates: January 17, 2013

Rule Source: X118, X345, X183

5.20. Use existing conditions baseline only for ER and AOE

Details: Existing equipment baselines less efficient than the code/ISP baseline are only used for the portion of the RUL of the pre-existing equipment that was eliminated due to the program.

Note 1: AOE can be considered a subset of ER and use existing conditions baselines, provided the program activity induced the installation of the add-on equipment.

Note 2: NR measures must use the existing conditions baseline when those existing conditions are more efficient than the code/ISP baseline. Also see regressive baseline rule.

Note 3: When T12 linear fluorescent lighting is the existing equipment in a customer facility, Regional Direct Install Programs using the MLC are allowed to use the T12s as the existing equipment baseline if Early Retirement requirements are met. This allowance is limited strictly to Regional Direct Install Programs using the MLC for customers less than or equal to 200 kW in size. For all other customers and programs, if T12s are the existing equipment, then standard T8s shall be used as the baseline for calculating energy savings and incentives.

Effective Dates: July 2013

Rule Source: Project Basis EUL-RUL Guidance, R.09-11-014 EE Policy Manual v5, D.12-05-015

Rule Source reference text (if applicable):

R.09-11-014: "Pre-existing equipment baselines are only used in cases where the preponderance of evidence [shows] the program has induced the replacement rather than merely caused an increase in efficiency in a replacement that would have occurred in the absence of the program.

Pre-existing equipment baselines are only used for the portion of the remaining useful life (RUL) of the pre-existing equipment that was eliminated due to the program. These early or accelerated retirement cases may require the use of a "dual baseline" analysis that utilizes the pre-existing equipment baseline during an initial RUL period and a code requirement/industry standard practice baseline for the balance of the EUL of the new equipment.

A pre-existing equipment baseline is used as the gross baseline only when there is a preponderance of evidence that the pre-existing equipment has a remaining useful life and that the program activity induced or accelerated the equipment replacement. This baseline can only apply for the RUL of the pre-existing equipment."

ER Measures

5.21. Early Retirement measure type definition

Details: The Early Retirement category is a sub-type of the larger Accelerated Replacement category, which includes replacements of existing equipment with nominally higher efficiency equipment and where there is more evidence than not that a) the existing equipment would have remained in operation for at least the remaining life of the existing equipment, performing its current service requirement and b) the energy efficiency program activity induced or accelerated the equipment replacement.

The existing equipment must have at least one year of remaining useful life (RUL) to qualify as Early Retirement. In Early Retirement measures, the existing equipment is fully operational and meets new and existing load service requirements and could continue to do so for the RUL of the existing equipment.

Early Retirement measures use the existing equipment annual energy use as the baseline for calculating the savings and customer incentive payment. Early Retirement measures also require the collection of code or industry standard practice annual energy for the purpose of establishing eligibility and internal “dual baseline” analysis. The second baseline is used for savings reporting purposes only and does not currently factor into the customer’s incentive payment calculation.

Effective Dates: July 16, 2014

Rule Source: Statewide P&P, Resolution E-4818

5.22. Incentive must be less than or equal to ERC for ER

Details: Calculate and enter the ERC caps for ER measures. The incentive is capped at 100% of ERC. The measure cost utilized in an ER case is the full cost incurred to install the new high-efficiency measure, 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.

Notes:

$$ERC = PC - \frac{(PC - IMC)}{(1 + D)^{RUL}}$$

Where: PC = project total cost (or full measure cost)

IMC = incremental cost over code/ISP

D = discount rate (7.66% for PG&E service territory)

RUL = Remaining life in years of the early retired equipment.

Exception 1: Incentives for Regional DI projects are capped at full measure cost.

Effective Dates: Applications received after May 15, 2012

Rule Source: Statewide P&P, PG&E policy, D.12-05-015, Regional DI program manual

5.23. Code/ISP baseline must be used for NR/NEW and 2nd baseline for ER

Details: Code or ISP is the baseline for NR/NEW, except for projects where existing equipment is more efficient than code/ISP.

This baseline applies for the entire EUL for NR/NEW as well as the RUL+1 through EUL period of program induced early retirement of pre-existing equipment cases (the second period of the dual baseline case).

Notes: N/A for SBD

Effective Dates: Program inception

Rule Source: Project Basis EUL-RUL Guidance, R.09-11-014 EE Policy Manual v5, D.12-05-015

5.24. Early Retirement must show a Preponderance of Evidence

Details: ER projects are required to show a positive score for both viability and influence using the Preponderance of Evidence scoring matrix referenced in Resolution E-4818 as a guide.

Note 2: N/A for SBD

Effective Dates: September 20, 2017

Rule Source: Statewide P&P, D.16-08-019; Resolution E-4818

Add-on Equipment Measures

5.25. Add-on Equipment measure type definition

Details: The Add-on Equipment (AOE) measure type is used for installations of new equipment onto an existing host improving the nominal efficiency of the host system. The existing host system must be operational without the AOE, continue to operate as the primary service equipment for the existing load, and be able to fully meet the existing load at all times without the add-on component. The AOE must not be capable of operating on its own. The actual energy reduction occurs at the host equipment, not at the add-on component, although any add-on component energy usage must be subtracted from the host savings.

Typical examples include the addition of a variable speed drive to an existing motor driven process. The AOE category replaces the category previously known as Retrofit Add-on (REA).

The AOE category uses the existing conditions as the baseline and the full measure cost; the EUL must be limited to the RUL of the host equipment.

Effective Dates: September 13, 2017

Rule Source: Resolution E-4818

5.26. The default RUL is equal to the DEER EUL * 1 / 3

Details: The default RUL for existing equipment is 1/3 of the existing equipment's EUL.

Deviations from this RUL value should be supported by evidence such as equipment installation date, maintenance records, or other external factors.

Effective Dates: January 1, 2013

Rule Source: X069, X356, X039, D.12-05-015

Rule Source reference text:

D.12-05-015: "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. 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"

Project Basis EUL-RUL Guidance: "The Remaining Useful Life (RUL) is an estimate of the median number of years that equipment being replaced under the program would have remained in place and operable had the program intervention not caused the replacement. No survival rate studies have been recently conducted to determine this estimate for many measures. Per D.12.05.015 at 347, the starting point default estimate for any equipment RUL is one-third the EUL for that equipment. Use of an alternate value for RUL requires evidence that must be documented and maintained in the project files and must be based upon an approach subject to Commission staff approval. Commission staff does not expect to perform this review and approval on a project-by-project basis but rather requires that the all proposed approaches to be utilized for classes of projects be submitted for approval. The most common uses of equipment RUL values are: 1) to establish the acceleration or first baseline period for program induced early retirement projects; 2) to place an upper limit on the life for projects which alter existing equipment or systems; 3) to establish the life for other equipment removal activities such as appliance recycling. In custom project activities the first two of these uses are common.

For calculated measures, one reference point to consider in evaluating potential alternative RUL values is the existing equipment installation date so as to determine the equipment RUL as the EUL minus the age of the equipment. A value close to zero or negative is an indicator that RUL less than the policy default may be appropriate. Likewise, replacing a newer equipment might suggest an RUL that exceeds the policy default value. However, the age of existing equipment may be less important than normal facility remodel, or planned process retrofit and/or planned equipment upgrade or replacement cycle. This data may be site- and company-specific or may be market based. Additionally, maintenance, overhaul, rebuild, and reconditioning history and other documented status on equipment condition may be considered to replace the policy default RUL. For industrial processes, building shell projects and other situations where the where EUL was limited by policy rather than survival data, the consideration of these alternative data normally are more important considerations than age compared to EUL."

5.27. AOE incentive must not exceed 50% of FMC

Details: Incentive for measure type AOE is capped at 50% of its full measure cost.

Exception 1: Incentives for Regional DI projects are capped at full measure cost.

Effective Dates: Inception of REA measure classification.

Rule Source: Statewide P&P, Regional DI program manual

NR / NEW Measures

5.28. Normal Replacement measure type definition

Details: The Normal Replacement (NR) measure type includes installations where the existing equipment has failed or no longer meets current or anticipated needs or is being replaced due to normal remodeling or upgrading or replacement activities that are expected and undertaken in the normal course of business. Measure installations where the existing equipment is still functional but does not qualify for Early Replacement fall into this category. This category now includes measures that previously fit into the now-retired Replace on Burnout (ROB) category.

A code or industry standard practice (ISP) baseline energy savings calculation, incremental measure cost, and a measure effective useful life (EUL) with justification is required for this installation type. The baseline should reflect typical actions and standard operating scenarios that would be in-place absent the program, taking into account any and all codes, standards, or regulations that apply to the installation.

Effective Dates: July 16, 2014

Rule Source: Statewide P&P, Resolution E-4818

5.29. NR / NEW incentive must not exceed IMC

Details: Incentives for measure types NR and NEW are capped at 100% of the IMC.

Exception 1: SGP and LGP currently have different capping mechanisms. Regional DI lighting (LGP) projects utilizing the MLC are capped at 100% of FMC.

Effective Dates: Jan 1, 2015

Rule Source: Statewide P&P

5.30. NEW Measure Type Definition

Details: NEW measures include eligible measures where equipment is installed in a new area or one that has been subject to a major renovation, or to expand capacity of existing systems, or to serve a new load. The baseline for such measures is the energy use associated with the Code or Industry Standard Practice equipment operation.

Effective Dates: July 16, 2014

Rule Source: Statewide P&P, Early Retirement Using Preponderance of Evidence

BRO Measures

5.31. BRO measure type definition

Details: The Behavioral, Retrocommissioning, and Operational (BRO) category includes all activities and installations that restore equipment performance to its nominal efficiency (i.e., rated, intended, or original efficiency). The BRO category may include measures that either restore or improve energy efficiency, and that can be reasonably expected to produce multi-year savings. Savings from performing deferred maintenance, performance restoration, and operational characteristics are considered within this category only. In cases where these savings are a component of the savings captured through equipment replacement, separate claims must be made for the equipment replacement savings, and savings that arise from updating maintenance and operational factors.

The BRO category will allow existing conditions to be used as the baseline and the full measure cost for cost reporting. BRO incentives are capped at 50% of the full measure cost.

Note: BRO measures may only be included in programs with BRO aspects to their program design.

Effective Dates: September 13, 2017

Rule Source: Resolution E-4818

5.32. Retrocommissioning (RCx) of New Construction

Details: Recently completed new construction or major renovation projects are not eligible to participate in RCx for at least five years. For any recently completed new construction project proposed for RCx measures, submit a copy of the original new construction commissioning report mandated under Title 24.

Effective Dates: September 13, 2017

Rule Source: PGE-15-C-I-0022

5.33. Justification of RO measures where there is no DEER RUL

Details: When implementing RO measures, the host equipment RUL must be considered. The following are required to justify that the existing equipment has RUL:

- A site inspection during the RCx audit that visually shows that the equipment appears to be in good operating condition.
- Pre-screening RCx projects that involves asking and understanding if the customer has any plans to replace any major equipment in the near future. If they do, then those pieces of equipment are excluded from the RCx activity.
- Justification on why the existing, host equipment could remain operational over the measure EUL.
- Justification on why the measure savings will persist over the measure EUL.
- Justification on why the existing, host equipment would remain operational over the measure EUL absent any program intervention.

Effective Date: 8/6/2018

Rule Source: PG&E EE Strategy & Policy Planning

6. Cost Assessment and Incentives

6.1. Must provide FMC and IMC with supporting documentation

Details: CS requires that PG&E document full measure cost and incremental measure cost for each measure. The cost information should clearly separate, at a minimum, the labor and the material cost. Allowable project costs may include: audits, design, engineering, construction, equipment, materials, removal, recycling, overhead, sales tax, shipping, and labor. Labor cost can be contractor or in-house if proof of direct project hours and costs are provided.

Provide detailed, itemized invoices (labor and material) and any other pertinent documentation used to determine the project's actual measure cost estimates, when available. CS recommends that the IOU submit the actual installed measure costs and that incremental cost is the measure project cost minus the baseline project cost. Invoices should include the make, model, unit price, and quantity of equipment, the vendor name and address, the customer's name and address, the invoice number, the date of sale, and the total cost.

Notes: New Construction and New Load projects (including SBD) may not require itemized invoices, though IMC collection is still required.

Effective Dates: Program inception

Rule Source: X063, X069, X096, X220, X356, X417, Statewide P&P

6.2. Remove unrelated project costs

Details: Project costs are only the direct costs associated with implementing the energy savings measure(s).

Note: Standby equipment is not an eligible project cost.

Effective Dates: Program inception

Rule Source: X205

6.3. IMC must be greater than zero for NR and NEW measures and ERC must be greater than zero for ER measures

Details: Include detailed assumptions and documentation to support IMC/ERC calculation. For projects to be eligible, IMCERC must be greater than zero.

Effective Dates: Program inception

Rule Source: X435, X436, Statewide P&P, EE policy

Rule Source reference text:

X435: "CPUC Staff found that the economic analysis of the proposed project and potential alternatives did not include all the possible incremental measure costs. As a result, the simple payback with the EE financial incentive was less than one year. There remains a need to understand the comprehensive baseline costs associated with purchasing two of the baseline units, such as incremental costs that include facility space, ownership or rental issues, additional labor required to run baseline equipment, and greater maintenance costs... CPUC staff is concerned that true incremental costs might begin to approach \$0 for this project, making this customer a free-rider candidate."

6.4. FMC must be greater than IMC for Non AOE/RCx measures

Details: Full Measure cost must always exceed (and not equal) Incremental Measure Cost for NR/NEW/ER measures.

Effective Dates: January 1, 2015 for Early Retirement; Program inception for all other measure application types.

Rule Source: Statewide P&P

6.5. Only direct saving can be used to establish incentive

Details: Only direct energy savings—not indirect energy savings due to interactive effects—count in determining a project's incentive.

Exception 1: N/A for SBD or projects utilizing IPMVP Option C or Option D.

Effective Dates: Program inception

Rule Source: Statewide P&P

6.6. Project incentive cap

Details: The maximum default incentive per project is \$500,000. This cap can be removed with a project review by CIT and approval of an Exception Request.

Effective Dates: January 1, 2017

Rule Source: Statewide P&P

7. ISP / Baseline

Note on Industry Standard Practice (ISP) and baseline documents: Reference to a baseline/ISP document supporting a baseline claim alone is insufficient to qualify/approve a project. The project developer, engineer, etc. is required to do due diligence to screen for free-ridership (i.e. one should review the customer's website to see if the customer has committed to energy efficiency plans prior to PG&E program interaction). The project team still needs to address all other factors (i.e. beyond energy) that may influence the project development. The proposed baseline must be some viable system that the customer could realistically install.

Reference: CPUC approved ISP studies can be found at the following web site:

<http://www.cpuc.ca.gov/General.aspx?id=4133>

7.1. ISP by default

Details: Where a proposed measure is determined to be the only acceptable equipment for an application, the baseline must be set at the minimum needed to meet the functional requirements, and therefore, the measure is ineligible. The project developer must present a viable lower-cost, lower-efficiency option that the customer would implement absent the program, for the higher-cost, higher-efficiency option to be eligible.

Notes: An example would be an industrial process where only a variable-speed drive pumping system could meet the production requirements. For situations where the baseline conditions or requirements were changed (such as production level changes), the baseline equipment is defined as the minimum equipment needed to meet the revised conditions. If the pre-existing equipment is not capable of reliably meeting the new requirement (such as production change) for its remaining life, then a new equipment baseline must be established utilizing either minimum code requirement or industry standard practice equipment, whichever is applicable.

Effective Dates: July 1, 2013

Rule Source: R.09-11-014 EE Policy Manual v5, "PGE-15-C-I-0005_2K1400013946_Industrial Gas Process Modifications"

Rule Source reference text:

PGE-15-C-I-0005_2K1400013946_Industrial Gas Process Modifications: "Demonstrate that NR, ROB, NC projects have lower efficiency lower cost alternatives that meet the customer's technical and functional requirements and that the program has influenced the customer to adopt the more efficient, more costly measures than they were planning to implement absent the influence of the program."

7.2. Consider non-energy code baselines

Details: Fully describe any applicable regulatory requirements that are beyond the scope of the energy code, but that may influence or mandate implementation of the measure. One example is the California Air Resources Board (CARB) requirements pertaining to controlling emissions from manufacturing of particle board and allowable residual harmful substances in the particle board.

Effective Dates: Program inception

Rule Source: Statewide P&P, X240

7.3. Baseline equipment must be determined by regulation, code, or standard project requirements

Details: 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. For new equipment choices that are subject to existing regulations, codes or standards, PG&E's current policy provides that the baseline equipment be determined by regulation, code, or standard requirements.

Notes: SBD projects for buildings/spaces that are governed by Title 24 use Title 24 as the baseline. Spaces not governed by Title 24 use the industry standard.

Effective Dates: May 18, 2012

Rule Source: D.12-05-015

7.4. Use standard practice or ISP Baseline when there are no code requirements

Details: Where there is no code requirement, a "standard practice" shall be the baseline. If a PG&E approved Industry Standard Practice (ISP) study exists, the study shall set the standard practice baseline unless the customer's standard practice is more efficient than the ISP or the ISP is not a viable option for the customer.

If no study exists, the standard practice is the typical equipment being purchased or installed today for a new similar application and not necessarily the equipment predominantly found in existing installations. Existing conditions are NOT to be used as a default baseline in the absence of an ISP study.

Data about today's purchasing trend must be provided by the project developer to support the standard practice determination. This data must provide tangible evidence of the standard practice. In some cases, PG&E may investigate the potential for an industry wide market study.

Note: Standard practice still needs to be determined for ER claims due to setting the second baseline for the EUL-RUL period.

Effective Dates: Program inception

Rule Source: Statewide P&P, D.12-05-015, R.09-11-014 EE Policy Manual v5, ISP Guidance Document

Rule Source reference text:

D.12-05-015: "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."

R.09-11-014: "Industry standard practice baselines establish typically adopted industry-specific efficiency levels that would be expected to be utilized absent the program. Standard practice determination must be supported by recent studies or market research that reflects current market activity. Typically market studies should be less than five years old; however this guideline is dependent on the rate of change in the market of interest relative to the equipment in question."

8. M&V

8.1. Site must have pre-installation inspection

Details: A site inspection must be performed to verify existing equipment and loads on the equipment, if applicable, and confirm measures are not on site. A report must be on file.

<More detail on this requirement will be provided in a subsequent release, specifics for individual sub programs, project size, A-path, B-Path etc.>

Notes: N/A for SBD or New Load projects

Effective Dates: Program inception

Rule Source: Statewide P&P

8.2. M&V must provide hours for each space type in non-DEER buildings

Details: For non-DEER building type lighting projects, the M&V has to cover every space type. When the project building type does not match any of the DEER building types, then site specific values can be used if thoroughly documented. This means that either all space types within each non-DEER building must be sampled following the methods described in CPUC guidance or schedules for the lighting circuits controlled automatically through an existing building energy management system (BMS) may be used. It is not acceptable to monitor only those spaces that are known to exhibit hours of use or other savings parameters greater than the DEER defaults while using the DEER default for other space types. All space types within that building must use a custom value determined either through data logging with acceptable samples or data collection and documentation of the lighting schedules controlled through the BMS.

Notes: N/A for SBD

Effective Dates: December 31, 2014

Rule Source: X219

8.3. Detailed M&V Plan must be submitted

Details: For each project, an M&V plan is proposed based on the scope of the proposed measures and magnitude of expected savings. Required details include concise descriptions of measurement points, measurement period, measurement interval, measurement equipment, system diagrams, discussion of the accuracy of measurement equipment and uncertainty associated with the results.

Indicate how the pre-M&V data was used to establish each measure baseline and how the post-M&V data will be used to true-up the final ex ante estimates. Provide concise equations with explanations demonstrating how the final savings estimates will be determined using the measured data.

Notes: N/A for SBD

Effective Dates: November 22, 2014

Rule Source: X239, PGE-17-T-I-0180

8.4. Revise savings calculations based on post install M&V / meter data

Details: Always verify actual loads and true-up savings calculations with post-install M&V data. Observed post-installation site conditions should be used for final approved savings.

Effective Dates: Program inception

Rule Source: X118, Statewide P&P

8.5. M&V for highly variable conditions must be documented

Details: Highly variable conditions generally require longer M&V - two weeks are not enough. The M&V period needs to cover typical and stable conditions; sites with seasonal operation and/or cyclical production should have an M&V period which captures these variations. Also, when deviations from proposed calculation methodology and/or M&V plans are necessary, the IOU should provide a well-documented explanation regarding the reasons for the variation from the original plan and a detailed description of the proposed changes to the previously approved approach to estimating savings impacts. Substantial changes to an approved project would normally invalidate any previously issued approval, so this information must be supplied as soon as possible once the changes are identified and before the project proceeds.

Exception: N/A for SBD

Effective Dates: May 6, 2014

Rule Source: X183, X239

8.6. Use EMS data for pre/post baselines when available

Details: EMS trend data / SCADA data can be an acceptable alternative to M&V with standalone data logging equipment.

Effective Dates: N/A

Rule Source: X234, X356

9. Non-IOU supply / Fuel-substitution

9.1. General Non-IOU supply framework

Details: Evaluation requires assessment of “coincident savings” (savings associated with an EE measure that coincide with periods customer is purchasing energy from utility and thus reducing grid/system impact). Time period is hourly for electricity and monthly for natural gas.

Determine eligibility based on two issues:

- a) Does Customer pay non-bypassable surcharge (Public Purpose Payment, PPP) on the electricity or gas subject to EE savings?
- b) Are there electric grid/gas system coincident savings?

To qualify for EE incentives, the Customer’s reduction in energy usage due to the EE measure must occur on the grid/system at all times when the EE measure is operational and its energy resource requirement is being met.

Effective Date: August 1, 2014

Rule Source: Energy Efficiency Savings at Sites with non-IOU Fuel Sources—Guidance Document

9.2. Steps to assess EE savings for Non-IOU supply projects

Details: Follow these steps to assess;

1. Consider electric and gas savings separately.
2. Assessment is meter-specific. Identify utility meter the impacted electricity or gas is flowing through.
3. Determine whether Customer pays PPP on affected energy use. If no, Customer is not eligible. If yes, Customer may be eligible for savings associated with the meter that energy is flowing through.
4. Does Customer use non-IOU energy resources that supply part or all the energy used by the facility or equipment associated with the EE measure being considered? If no, Customer is eligible. If yes, Customer may be eligible if they pay PPP on that commodity.
5. Does Customer have multiple facilities and/or multiple meters at the site? If no, Customer may be eligible. If yes, determine which meter(s) the EE savings measure is impacting the electric grid/gas system and if PPP is paid for energy purchases through that meter(s).

Note: For Electric Savings, determine which “Category” customer falls into (rules differ for each Category):

- A. Residential and small commercial (< 20kW peak demand) and with on-site PV
 - Exclude all on-site self-generation for purposes of savings credit and incentive calculation
- B. Not residential or small commercial and on Net Energy Metering tariff
 - Perform calculations for three scenarios and record monthly values
 1. EE not installed and on-site self-gen not installed
 2. EE installed and on-site self-gen not installed
 3. EE not installed and on-site self-gen installed but ignore exports in monthly total use (so monthly purchases are not reduced by export credits)

- Savings credit: Scenario 1 minus Scenario 2, but each monthly value for energy use and demand reduction limited to monthly energy use and demand values in Scenario 3
- C. Not residential or small commercial and not on NEM tariff
 - Determine “coincident savings” (savings on the affected meter that coincide with periods Customer is purchasing energy from utility) – hourly for electricity; monthly for natural gas.

Effective Date: August 1, 2014

Rule Source: Energy Efficiency Savings at Sites with non-IOU Fuel Sources—Guidance Document

9.3. Conduct Fuel switching - three prong test

Details: Incentives for fuel substitution measures are calculated as the incentive associated with the replaced fuel measure (electricity or gas) less the incentive resulting from the installation of the replacement fuel measure (electricity or gas). The 3 prong test requires that each program/measure/project:

1. Must not increase source BTU consumption.
2. Must have a TRC and PAC of > 1.0.
3. Must not adversely affect the environment.

Effective Dates: Program inception

Rule Source: R.09-11-014 EE Policy Manual V5

Rule Source reference text:

R.09-11-014: “Fuel substitution programs/projects may offer resource value and environmental benefits. Fuel-substitution programs should reduce the need for supply without degrading environmental quality. For purposes of applying these tests, fuel substitution proponents must compare the technologies offered by their program/measure/project with the industry standard practice same-fuel substitute technologies available to prospective participants that would have TRC and PAC benefit-cost ratio of 1.0 or greater. The burden of proof falls on the party sponsoring the analysis to show that the baseline comparison adheres to this requirement. Fuel substitution program/measures/projects with a predominantly load building or load retention character are not eligible for funding, and the proponent of a fuel-substitution program carries the burden of proof to demonstrate that the program/measure/project focuses on energy efficiency and creates net resource value. Fuel-substitution programs/projects, whether applied to retrofit or new construction applications, must pass the following three-prong test to be considered further for funding:

- a. The program/measure/project must not increase source-BTU consumption. Proponents of fuel substitution programs should calculate the source-BTU impacts using the current CEC-established heat rate.
- b. The program/measure/project must have TRC and PAC benefit-cost ratio of 1.0 or greater. The TRC and PAC tests used for this purpose should be developed in a manner consistent with Rule IV.4.
- c. The program/measure/project must not adversely impact the environment. To quantify this impact, respondents should compare the environmental costs with and without the program using the most recently adopted values for avoided costs of emissions. The burden of proof lies with the sponsoring party to show

that the material environmental impacts have been adequately considered in the analysis.”

9.4. Account for all fuel substitution and co-gen costs

Details: Natural gas fired self-generation, as well as self-generation units using other non-renewable fossil fuels, must be treated as fuel-substitution. Common with other types of fuel-substitution, any costs of gas transmission and distribution, and environmental externalities, must be accounted for. In addition, cost-effectiveness analyses of self-generation should account for utility interconnection costs.

Effective Dates: Program inception

Rule Source: D.06-12-013

10. Other

10.1. CMPA minimum requirements supporting document requirements

Details: The specific types of documents to be maintained in the CMPA and parameters required to be in the supporting documentation may vary based on the type of project. Examples of the expected data elements are listed below.

- Documentation to support Baseline assignment (Code or Standard requirement, Early Retirement, Retrofit, Replace On Burnout, industry standard practice, CPUC policy, etc)
- Existing system controls and operating status description
- Existing system output capacities – current output and maximum/design capacity
- Pre-installation inspection report
- Post-installation inspection report
- Proposed modifications with schematic as applicable
- Preliminary savings calculations and supporting data with documentation to ensure replicability
- Manufacturer’s cut sheets when used to estimate ex ante savings or when needed to ensure replicability
- Fuel switching considerations and any required analysis per CPUC policy regarding fuel switching projects (see Energy Efficiency Policy Manual)
- Other fuel savings and/or load increases resulting from the project
- Heating, Ventilation, and Air Conditioning (HVAC) interactive effects values and methods used to develop those values, when measures cause a change in HVAC system loads
- Interactions between multiple measures that act to increase or decrease savings relative to a measure stand-alone savings estimate
- Pre/post production output data when used in savings calculations and the source of such records
- Billing history - one-year pre installation, with interval data required when available; when ex ante estimated values rely upon a per-unit-production changes based on multi-year production data, corresponding billing histories are required
- IOU or implementer program manual (a single archive of these documents should be referenced rather than including the documents in each project archive)
- M&V plans, reports and raw data archives, where applicable
- EUL/RUL value, analysis or source

Effective Dates: July 14, 2011

Rule Source: D.11-07-030

10.2. [BEST PRACTICE] Early Policy Review

Details: Projects with initial estimated savings that surpass 0.5 GWh or 200,000 therms should be submitted to PG&E for an early policy review in the early project development stage. The PG&E Custom Implementation Team will review the project and consider it for a Collaborative Review with CPUC staff.