

# Track 2 Working Group

## DRAFT Report – v4

August 22, 2017

This draft report summarizes the T2WG discussions to date and outlines specific proposals addressing the issues assigned to the T2WG or requests for additional clarification/direction from the Commission.

T2WG stakeholders have the opportunity to adjust, clarify, or expand their positions as represented in this document. **Stakeholders should provide comments, questions, or suggested edits to [t2wg@cadmusgroup.com](mailto:t2wg@cadmusgroup.com) by end of day on Friday, August 25.**

## Table of Contents

1	Acknowledgements .....	4
2	Introduction .....	5
2.1	Background .....	5
2.2	T2WG Tasks .....	6
3	Approach .....	7
3.1	Working Group Meetings .....	7
3.2	Stakeholders and Participants .....	7
3.3	T2WG Report .....	8
3.4	Commission Review and Decision-Making Process .....	9
4	Task 1 – Standard Baseline Definition .....	10
4.1	Background .....	10
4.2	T2WG Recommendation .....	11
5	Task 2 – Tiered POE .....	17
5.1	Background .....	17
5.2	T2WG Recommendation .....	18
6	Task 3 – Repair-Eligible/Indefinitely .....	27
6.1	Background .....	27
6.2	T2WG Recommendation .....	28
7	Task 4 – Small Business Definition .....	31
7.1	Background .....	31
7.2	T2WG Discussion .....	31
7.3	T2WG Recommendation .....	33
9	Update on Tasks 5 and 6 .....	37
9.1	Task 5 – ISP Guidance .....	37
9.2	Task 6 – Custom Streamlining .....	37
10	Summary of T2WG Proposals and Questions .....	41
	Appendix B. Standard Practice Baseline Iteration History .....	43

## Glossary of Acronyms

Acronym	Description
AR	Accelerated replacement
CEDMC (CEEIC)	California Energy Efficiency and Demand Management Council (formerly California Energy Efficiency Industry Council)
CPUC	California Public Utilities Commission
EAR	Ex ante review
EUL	Effective useful life
FMC	Full measure cost
IOU	Investor-owned utility
ISP	Industry Standard Practice
ORA	Office of Ratepayer Advocates
POE	Preponderance of Evidence
T1WG	Track 1 Working Group
T2WG	Track 2 Working Group

# 1 ACKNOWLEDGEMENTS

---

Many individuals participated in the Track 2 Working Group (T2WG) between April and August, including members of the investor-owned utilities (IOUs), implementation contractors, California Public Utilities (CPUC) staff and consultants, Office of Ratepayer Advocates (ORA), ex ante technical reviewers, ex post evaluators, and other stakeholder groups.

T2WG participants attended more than 48 hours of working group meetings—not including meeting preparation, travel time, or other concurrent discussions regarding working group topics—and contributed to in-depth discussions ranging from broad policy goals to boots-on-the-ground program implementation.

Although perspectives frequently differed, causing some difficult conversations about the source of problem areas or methods to solve issues, stakeholders seemed to develop a better understanding of each other’s important roles in the state’s energy efficiency portfolio and contributions to driving increased adoption of energy efficiency throughout the state.

We recognized among all participants a deep commitment to the goals of California’s energy efficiency programs and to “getting it right” regarding honest and effective use of ratepayer funds to influence change in California’s markets. Many differences remain among stakeholders’ perspectives on the *methods* to achieve their shared goals, some of which are reflected in this report, but T2WG participants have made progress in improving communication to identify and address those differences through idea-sharing and thoughtful solutions.

We look forward to continued momentum to build a strong working relationship among stakeholders and to further progress identifying and implementing solutions that improve both communication and efficiency in achieving cost-effective energy efficiency savings in the custom programs.

Q – Should we list stakeholder names here?

## 2 INTRODUCTION

---

Decision 16-08-019 directed California Public Utilities Commission (CPUC) Staff to convene two stakeholder working groups to address several specific issues outlined in the Decision:

- The Track 1 Working Group (T1WG) convened in October 2016 to discuss measure-level baseline assignments and preponderance of evidence (POE) requirements and produced the Track 1 Working Group Report on December 7, 2016.
- The Track 2 Working Group (T2WG), originally intended to focused on recommendations to improve guidance on Industry Standard Practice (ISP) and propose opportunities to streamline the custom programs, absorbed four additional issues assigned to the working group in Resolution E-4818 (the Resolution), the Commission's response to the T1WG Report.

This T2WG Report is the first report from the Track 2 Working Group. It addresses the four issues assigned in the Resolution (referred to as tasks 1 through 4 in this report) and provides an update on discussions to date and planned next steps for the two original issues (referred to as tasks 5 and 6 in this report).

### 2.1 BACKGROUND

Decision 16-08-019 specified two topics for the Track 2 Working group. It ordered that the Commission staff host facilitated working group meetings to allow stakeholder input on the custom review process and the development of a streamlined approach and to provide recommendations to revise the current ISP Guidance Document.

On March 2, 2017 the CPUC issued Resolution E-4818 in response to the T1WG Report. The Resolution included four new assignments for the T2WG:

"We ask the [T2WG] to address the following in their deliberations and recommendations, and that recommendations be presented to Commission staff no later than June 30, 2017:

- Consider and recommend clarifying policy for how to determine code baseline as they address issues related to industry standard practice.
- Develop qualification standards and documentation requirements to identify a small-sized business customer.
- Develop qualification standards and documentation requirements to identify repair eligible and repair indefinitely measure types.
- Develop recommendations for what should constitute Tier 1 and Tier 2 Preponderance of Evidence requirements.

Commission staff will review the recommendations and update the guidance documents, as appropriate. The update will be vetted through a public process and the final document will be posted to a publicly available website."

## 2.2 T2WG TASKS

The T2WG convened in April 2017 to address the six issues ultimately assigned to the T2WG. To facilitate discussions, the T2WG assigned each issue a task number as follows.

Issues assigned in the deferred T1WG issues, originally due June 30, 2017 and extended for 60 days:<sup>1</sup>

- **Task 1. Standard Baseline Definition**, to consider and recommend clarifying policy for how to determine code baseline as they address issues related to ISP.
- **Task 2. Tiered POE**, to develop recommendations for what should constitute Tier 1 and Tier 2 Preponderance of Evidence requirements.
- **Task 3. Repair-Eligible/Indefinitely**, to develop qualification standards and documentation requirements to identify repair-eligible and repair-indefinitely measure types
- **Task 4. Small Business Definition**, to develop qualification standards and documentation requirements to identify a small-sized business customer.

Original T2WG issues, with no assigned deadline:

- **Task 5. ISP Guidance**, to provide recommendations to revise the Industry Standard practice (ISP) guidance document.
- **Task 6. Custom Streamlining**, to develop a streamlined approach for the custom review process.

---

<sup>1</sup> The T2WG requested and received an extension on the issues originally due June 30, 2017.

### 3 APPROACH

The T2WG discussed issues and developed its recommendations through a series of in-person meetings and ad hoc phone calls with stakeholder groups including CPUC and IOU staff, implementation contractors, and other interested parties. A facilitation and reporting team—consisting of Rick Diamond and the Cadmus Group—organized and facilitated the meetings, documented discussions, and developed this report.

This section describes the working group meetings, participants, deliverable, and expected review process for the Commission.

#### 3.1 WORKING GROUP MEETINGS

The T2WG commenced with a kickoff meeting on April 11, 2017 and conducted eight in person meetings in various locations between May and August. Table 1 shows the dates, locations, and key topics for each meeting.

**Table 1. T2WG In-Person Meetings**

Meeting #	Date	Location
1	April 11, 2017	Embassy Suites LAX El Segundo, CA
2	April 26, 2017	DNV GL Offices Oakland, CA
3	May 10, 2017	SoCal Gas Energy Resource Center Downey, CA
4	May 24, 2017	SDG&E Energy Innovation Center San Diego, CA
5	June 6, 2017	ARUP Offices, Los Angeles, CA
6	July 10, 2017	Pacific Energy Center San Francisco, CA
7	July 24, 2017	Gas Company Tower Los Angeles, CA
8	August 16, 2017	Embassy Suites LAX El Segundo, CA

T2WG also hosted several phone meetings focused on specific issues as needed to clarify information or continue discussions and organized several ad hoc meetings with individual stakeholder groups to clarify stakeholder perspectives on both the topics and working group progress.

Information about the T2WG was disseminated through a T2WG mailing list, and material developed through the T2WG process was posted (and are available) at <http://t2wg.cadmusweb.com/>.

#### 3.2 STAKEHOLDERS AND PARTICIPANTS

In this report, we use the term “stakeholders” to represent all parties affected by the issues discussed and proposals made by the T2WG and the term “participants” to represent those parties that actively

participated in the T2WG process.<sup>2</sup> In general, all participants—such as IOU staff, CPUC staff, and implementation contractors—are stakeholders in the issues tasks to T2WG. However, although invited to participate in the public process, not all stakeholders were active participants. For example, ratepayers who fund the programs and customers who participate in the programs did not actively participate during the T2WG process, but are widely recognized as key stakeholders who both fund and benefit from the programs.

For the Track 2 Working Group, active participants included IOU Staff, implementation contractors, and CPUC staff. In this report, we reference participants in the following stakeholder groups:

- **IOUs** refers to all members of IOU staff regardless of their role in the energy programs. Active IOU participants included IOU staff focused on programs, policy, engineering and technical review, and evaluation.
- **Implementers** refers to any non-IOU parties who identify and implement energy efficiency projects. This includes parties who contract with the IOUs or other program administrators to identify and implement energy efficiency projects and those who implement third-party programs working. We include the California Energy Efficiency and Demand Management Council (CEDMC), an organization of energy efficiency contractors in California, in this group.
- **CPUC staff or Staff** refers to all members of CPUC staff (except ORA) and consultants to the CPUC. Active staff include members of the *ex ante* review (EAR) team and other Energy Division staff engaged in the custom program activity.
- **ORA** refers to the Office of Ratepayer Advocates.
- **Technical Reviewers** refers to IOU staff or contractors who complete technical review during the project development process.
- Other stakeholders include everyone else including observers,

### 3.3 T2WG REPORT

At the start of the T2WG process, participants discussed the need for the T2WG report to reflect the different perspectives among stakeholders and that the Commission review and consider all perspectives in its decision-making process. To achieve this, the group agreed that:

- The T2WG report should reflect the opinions of all participants, and all participants should feel the report adequately and fairly represents their perspectives.
- Where the T2WG participants have not reached consensus on a specific proposal, the T2WG report may reflect multiple proposals that the Commission should consider and provide guidance on.
- CPUC Staff should clarify its perspective and recommendations during the working group process, and those perspectives and recommendations should be included in the report.

Therefore, this report is intended to reflect the perspectives of T2WG participants, including documenting opposing perspectives on topics for which T2WG participants did not agree.

---

<sup>2</sup> We consider active participation as regularly attending meetings and providing input either during meetings or through other means of communication.



The main body of the report highlights the key concerns or discussions and outlines the T2WG proposal(s) and specific requests of the Commission. Additional background materials or detailed discussions are included in the appendices.

We use call out boxes to highlight areas where the T2WG requests clarification, guidance, or direction from the Commission. These requests are also summarized in Section 10, Summary of T2WG Proposals (page 41).

### 3.4 COMMISSION REVIEW AND DECISION-MAKING PROCESS

It is the understanding of the T2WG that the Commission will review this T2WG Report to understand the perspectives of T2WG participants, especially where participant perspectives differ, and review the specific proposals and requests for clarification presented in this report. T2WG participants stressed the importance of this understanding, to have their perspectives communicated to the decision-making body in this process (i.e., the Commission), in committing the time and resources required to actively participate in the working group process.

To help facilitate this request, participating CPUC Staff committed to clarifying its perspective and recommendations both through the T2WG process and in the T2WG report and confirmed it would not filter any of the T2WG report content in the material that the Commission receives for its review or decision-making process.

T2WG participants understand the Commission will respond to this report with a resolution that may provide clarification or guidance on some issues and provide specific direction or orders on other issues. Especially in cases where T2WG participants disagree on existing policy or future direction, this report requests guidance or direction on specific issues, summarized in Section 10, Summary of T2WG Proposals (page 41).

## 4 TASK 1 – STANDARD BASELINE DEFINITION

Consider and recommend clarifying policy for how to determine code baseline as they address issues related to industry standard practice.

### 4.1 BACKGROUND

“Code baseline” refers to the single baseline for normal replacement measures or the second baseline for dual baseline measures. The T1WG report offered the following definition of “code Baseline” in Section 2 of the Baseline Guidance Document (Appendix A of the T1WG report):

**T1WG Report, Appendix A at 3:** A Code baseline is determined by an activity or installation that would take place absent the energy efficiency program – either as required by code, regulation, or law or expected to occur as a standard practice – that would provide a comparable level of service as the energy efficiency measure. An activity or installation used to establish a code baseline must:

- A. Meet the minimum requirements of California Building Energy Efficiency Standards (Title 24 – Part 6) applicable to the baseline installation / activity
- B. Adhere to applicable existing approved Industry Standard Practice guidance document made publicly available by the CPUC or Program Administrator (for customers or project types not subject to Title 24 – Part 6)
- C. Comply with applicable federal, state, and local regulations or requirements that are relevant to the baseline activity / installation
- D. Be a normal practice or otherwise viable option that meets the anticipated functional needs of the customer, building, or process.”

The resolution agreed with multiple stakeholder comments that, although establishing clarity on the application of code baseline was not within the scope of the T1WG, the existing policy lacks a clear definition for code baseline. The resolution therefore directed the T2WG to “consider and recommend clarifying policy for how to determine code baseline as they address issues related to industry standard practice.” [E-4818 OP 25].

Table 3 summarizes the Resolution findings and orders on this topic.

**Table 2. Resolution Comments on Task 1**

Location	Resolution Language
Finding 8	Code baseline and industry standard practice baselines both reflect the efficiency of equipment that would have been adopted without the program activities and influence. We do not have a clear policy regarding how to apply these alternative normal replacement baselines in cases where both apply, or how to develop baseline when neither are applicable.
OP 5	We do not adopt the draft policy concerning the application of a code baseline that is presented in the measure-level baseline guidance document.
OP 25	... We ask the [T2WG] ... Consider and recommend clarifying policy for how to determine code baseline as they address issues related to industry standard practice.

## 4.2 T2WG RECOMMENDATION

The T2WG has revised the text from “Section 2.1 – Code Baseline” of the T1WG Report to clarify policy on determining code baseline. During discussions on this item, the T2WG confirmed the following:

- The term “code baseline” is confusing as a term for the broader baseline category since building or appliance code is only one of multiple baseline options within this category. T2WG agreed to use the term “standard practice baseline” instead of “code baseline” to refer to the category of baseline that applies to normal replacement or the second baseline for an accelerated replacement project.
- T2WG confirmed that regressive baselines are not valid and added the statement: “The baseline used for energy efficiency savings reporting and incentives shall not regress to a lower efficiency than the existing equipment.”

### 4.2.1 Proposed Standard Baseline Definition



#### **Proposal 1, Standard Baseline Definition**

Adopt the “T2WG Proposal for Standard Practice Baseline Definition”.

Participants developed this new definition through an iterative process of discussing and revising the original text from the T1WG Report, Appendix A, Section 2 (copied above). The proposed definition is the tenth iteration after rounds of review, discussion, and revision among T2WG participants. Appendix A includes for details of stakeholder discussions and a history of the document revisions.

## T2WG Proposed Standard Practice Baseline Definition

### Background

The Standard Practice Baseline is synonymous with a “code” baseline and is generally [1] used as the single baseline for Normal Replacement (including New Load and New Construction) measures as well as the second baseline [2] for Accelerated Replacement (AR) measures. This document only details the baseline selection process; it does not discuss measure eligibility or the review and verification of the selected baseline.

### Definition

The Standard Practice Baseline is an estimate of the activity or installation that would take place absent the energy efficiency program as required by code, regulation, or law, or as expected to occur as standard practice.

The Standard Practice Baseline activity or installation must meet the anticipated functional, technical, and economic needs of the customer, building, or process and provide a comparable level of service as the EE measure. Savings claims shall be generated based on equipment choices that operate at a comparable level of service as the EE measure. If there is not a viable and comparable baseline solution that offers a comparable level of service as the EE measure, the energy use of the baseline solution must be normalized to provide a comparable level of service as the EE measure.

### Selection Process

The following describes the process that a project developer must step through to determine the Standard Practice Baseline for a given measure. While the project developer must substantiate each step of this process, the PA and/or CPUC may corroborate any baseline selected through this process. Project developers are encouraged to collaborate with the PA on this selection process for larger projects.

Step 1. Consider and apply any applicable and current CPUC published Standard Practice documents relevant to the anticipated functional, technical, and economic needs of the customer, building, or process. Such documents, which may include ISP study reports, DEER baseline values, or CPUC-issued memoranda or dispositions, will be publically available on a single website with a date of issuance and effective dates [endnote 3]. If applicable baseline information within these documents is found, apply it and stop here. If applicable information is not found, review and follow the ISP Guidance Document. When appropriate, proceed to Step 2.

Step 2. Identify the options presented by the project developer, or that the customer considers functionally, technically, and economically feasible to implement, including any known options that are presently and commonly implemented. Options must comply with all codes, standards, and other requirements, with consideration for:

- A. Applicable minimum building energy efficiency requirements (e.g. CA Building Energy Efficiency Standards (Title 24 – Part 6) or ASHRAE Standard 90.1), and
- B. Other applicable federal, state, and local regulations or requirements, excluding reach codes e.g. Title 20, CARB Regulations, Federal Appliance Standards, and
- C. Providing a comparable level of service as the EE measure for the EUL of the EE measure.

Functional, technical, and economic feasibility is perceived and defined by the customer, but should take into account the need for performance and reliability, as well as any relevant operational, maintenance, and energy costs. The customer must consider any options considered under this step as reasonable to implement.

Step 3. If Step 2 yields only one feasible option, that option establishes the standard practice baseline. In this case, the measure is ineligible for Normal Replacement, and there is no second baseline savings for Accelerated Replacement. If Step 2 yields two or more feasible options, the option that is the lowest first-year cost to implement establishes the standard practice baseline.

Costs included in this process may be estimates, but their basis must be substantiated. Costs should include: "...the cost of any equipment or materials purchased, including sales tax and installation; any ongoing operation and maintenance costs; any removal costs (less salvage value); and the value of the customer's time in arranging for the installation of the measure, if significant." [endnote 4]

#### Endnotes

[1] For example, the baseline used for energy efficiency savings reporting and incentives shall not regress to a lower efficiency than the existing equipment.

[2] The second baseline applies to the time period from the end of the remaining useful life (RUL) of replaced equipment to the effective useful life (EUL) of the measure

[3] For example, the CPUC Ex Ante Review Custom Process Guidance Documents page at: <http://www.cpuc.ca.gov/General.aspx?id=4133>

[4] Standard Practice Manual, October 2001

The T2WG requests clarification from the Commission on the following topics related to Task 1.

#### 4.2.2 Transition Period

##### Question 1-1 , Transition Period



What is the appropriate effective date or transition period for projects that trigger market-based ISP studies? Is it reasonable to hold the project under ex ante review until the study is complete? Or can the project move to Step 2 of the Standard Practice Baseline selection process? (See Appendix A, Ongoing or Directed ISP Study section, for more detailed discussions on this topic.)

Staff would consider a reasonable grace period to implement this transition period contingent on the IOUs having in place a statewide Project Development Process, similar to the PG&E Project Development Protocol, and requiring their own program staff and implementers to make ISP assessment a requirement as part of the needs assessment in their program design. The transition period would be for a limited time; starting at the time of the commencement of the statewide Project Development Process. The grace period is intended to take into consideration projects already under development. Each utility will provide a list of projects under development and a brief description of the most recent status of the development at the time of preparing the list to CPUC staff. During this

transition period, a project identified under the project review stage (either under the utility's internal review or CPUC staff's ex ante review) as requiring an ISP study could proceed while the ISP study is conducted. The results of the IPS study will apply to similar projects moving forward, not the project that caused the study. Upon termination of the grace period, all projects identified as requiring to need an ISP study during the project review stage will be placed on hold until completion of the ISP study. The Project Development process is intended to identify issues such as requiring an ISP study early in the project development process to mitigate customer expectation issues at the project review stage. After the grace period, holding of projects requiring an ISP study at the review stage would be the consequence of not having executed the project development process diligently.

PG&E Staff notes that, for a small projects of which savings are under 0.5 GWh/200 ktherm (current ISP triggers), the PG&E project development protocol directs the developers to provide their justifications with some vendor information following the PG&E project development protocol. Essentially, project developers are required to first interview with the customers to address and document project eligibility, measure type, and influence issues; and follow the SP baseline steps outlined in the Task 1. The proposed option for baseline assumption must be among options that are common and viable.

PAs and CPUC reserve the right to review the project document and may request a standard practice investigation if the proposed baselining is lacking credible justifications. If this request is in place, the project in question should be held-up until the standard practice investigation is completed for this project to proceed. This give the implementers an opportunity to move forward more efficiently with the contingency that they must perform due diligence in the process of project development, including SP baseline choices, and present credible justification for their baseline option, not simply harvest or claim a project that has been decided by a customer (after fact).

Although project developers are required to still do their due diligence when making baseline assumptions such as gathering information to justify standard practice baseline, for a large project of which savings are above 0.5 GWh/200 ktherm (current ISP triggers), the PG&E PDP recommends PAs and CPUC's involvement early in the PD stage to investigate and validate standard practice options that must be viable and functional while meeting the customer's needs. Interviews with vendors and/or subject matter experts will be required when there are more than one viable options that are incremental to the existing condition. The project development goes hand in hand with the custom review and standard practice investigation process. Outcomes of standard practice collaborative review and investigation will be in effect for the specific project.

Implementers disagreed with the current language and argue that ongoing or directed ISP studies should be applicable to future projects and should not hold up projects in-flight. They suggested the following revised text for proceeding to Step 2: "If applicable baseline information is not found, proceed to Step 2. [Need transition period language]."

#### 4.2.3 Designated Website

##### Question 1-2, Designated Website



Can "CPUC Ex Ante Review Custom Process Guidance Documents" page at <http://www.cpuc.ca.gov/General.aspx?id=4133> be used as a repository of all published ISP studies? If not, where is the most appropriate location (a website or a repository) to deposit all published ISP studies?

T2WG Group recommended that all published ISP study reports and CPUC-issued memoranda or dispositions to be publicly available on a single website with a date of issuance and effective dates. The website should include the followings contents:

- Market-based ISP study reports where a standard practice is determined
- CPUC dispositions determining a technology in a certain application to be standard practice
- CPUC memos notifying parties that a market-based ISP study is underway, and that related projects may not be approved until completion of said ISP study
- CPUC memos notifying parties that a market-based ISP study is underway, and that related projects may continue until completion of said ISP study

It is expected that Staff has full authority to author and post any document to this site.

#### 4.2.4 Lowest First Year Cost Option vs Most Common Option



##### **Question 1-3, Lowest First Year Cost Option vs Most Common Option**

What should be the standard practice baseline if Step 2 yields more than two feasible options? (See Appendix B, Lowest First Year Cost Option section, for detailed discussions and supporting argument for each recommendation)

PG&E proposed using the lowest first year cost. However, an ex post evaluator disagreed with choosing the lowest first cost option to select the standard practice baseline, arguing that choosing lowest first year cost goes against the market-based (most common) choice being the baseline. Most common option is the definition of standard practice. Why are we reverting to lowest first cost?

See PGE's response to the selection of most common choice in Appendix A under "Use case where Step 2 yields more than two feasible options."

Staff referred to D.12-05-015 direction, at 351, "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." Therefore, the direction is typical equipment or commonly-used practice, but not necessarily a predominant choice. If there are two or more choices, there may be more than one choice that is common. In those cases, it may be appropriate to create a typical efficiency level for the standard practice that is a mix of efficiencies of the common choices weighted by their current selection (those currently or very recently making choices for installations or methods of operation) share. Staff stated that first-year cost, or other simple cost based methods are not very reliable unless there is clearly a case where the "lowest cost" item (however that is defined) also clearly has the largest current sales market share by a significant margin.

#### 4.2.5 Repair-Eligible/Indefinitely as Standard Practice

The Standard Practice Baseline definition is written such that tests for the repair-eligible and repair-indefinitely measure types may be handled through the Standard Practice Baseline definition. In Step 2, the project developer must identify the customer's feasible options. While the options considered in this process must be real options, they may represent solutions that do not involve the replacement of equipment.

*Example 1: A customer has a failed piece of equipment. The customer may choose to repair it, or the customer may choose to replace it with a higher efficiency system. This is the Repair Eligible use case, where the project developer must demonstrate that it is “more likely than not” that a repair of the failed equipment could and would occur. Evidence must be submitted to demonstrate that a) the existing equipment could be repaired to meet the need, and that b) the existing equipment would have been repaired if the program had not induced the replacement.*

*Example 2: A customer has a working piece of equipment, with no need to replace it or increase its level of service. The customer can maintain the existing equipment, or they can replace it with a higher efficiency system. This is the Repair Indefinitely use case, where the project developer must demonstrate that it is “more likely than not” that continued maintenance of the existing system could and would occur. Evidence must be submitted to demonstrate that a) the existing equipment could be continually repaired to meet the need, and that b) the existing equipment would continually be repaired if the program had not induced the replacement.*

In both cases, it is a POE test to determine if it is more likely than not that the customer could and would repair the equipment. If the measure passes that test, then the project developer may use a repaired state as the baseline. The following table describes the underlying questions explored in the various viability and influence tests:

Measure Category	Viability	Influence
Normal Replacement, New Load, Add-on Equipment	N/A	Is it more likely than not that the exact new equipment would not be installed without program intervention?
Early Retirement (Accelerated Replacement)	Is it more likely than not that the existing equipment has remaining useful life?	Is it more likely than not that the existing equipment would not be replaced without program intervention?
Repair Eligible	Is it more likely than not that the existing equipment could be repaired?	Is it more likely than not that the existing equipment would be repaired without program intervention?
Repair Indefinitely	Is it more likely than not that the existing equipment could be continually maintained and repaired?	Is it more likely than not that the existing equipment would be continually maintained and repaired without program intervention?

Note that Step 1 can preempt any eligibility of repairable measures. For example, an ISP document may be posted determining that it is ISP to replace a certain failed piece of equipment with a brand new one. In those cases, a repaired state for that equipment would not be an allowable option in Step 2 of the Standard Practice Baseline selection process.

Adopting Task 1 as proposal allows both repair-eligible and repair-indefinitely to be dropped as distinct measure types and incorporated through this baseline selection process under existing Normal Replacement and Early Retirement measure types.

The discussion of whether repair-eligible/indefinitely can be used for standard practice baseline is addressed in Section 6, Task 3 (page 27).



## 5 TASK 2 – TIERED POE

Develop recommendations for what should constitute Tier 1 and Tier 2 Preponderance of Evidence requirements.

### 5.1 BACKGROUND

The Resolution adopted the T1WG proposal for a tiered approach to preponderance of evidence (POE) for the determination of Accelerated Replacement as well as the proposed incentive size thresholds for the low, medium, and full rigor tiers.

The Resolution states that “the working group developed a ‘Tiered’ approach in its [POE] guidance, whereby projects with smaller incentives would be held to a lower rigor standard. The working group agreed there should be three rigor tiers:

- “Full Rigor” for the largest projects with incentives greater than \$100,000,
- “Tier 1, Medium Rigor” for projects with incentives between \$25,000 and \$100,000, and
- “Tier 2, Lower Rigor” for projects with incentives less than \$25,000.

... We adopt this proposed tiered approach. We also adopt the proposed incentive size cutoffs for the tier categories [E-4818 at 41].”

The resolution did not adopt the proposed evidence and documentation requirements or methods of data collection for Tiers 1 and 2 due to the level of disagreement among stakeholders.

The Resolution states that “parties could not agree as to whether the lowest rigor tier would involve an interview conducted by an independent third party, or program administrator, or implementer. There were also differing perspectives on whether the questionnaire should be program specific or general, whether the language in the questionnaire should indicate there would be consequences for misrepresenting facts, and even whether an interview should be conducted at all [E-4818 at 42].”

Table 3 summarizes the Resolution findings and orders on this topic.

**Table 3. Resolution Comments on Task 2**

Location	Resolution Language
Finding 21	It is reasonable to use a tiered approach to the preponderance of evidence, where three rigor levels (“Full Rigor”, “Tier 1, Medium Rigor” and “Tier 2, Lower Rigor”) are applied as a function of customer incentive size.
Finding 22	The working group recommends the tiers correspond to the following incentive ranges specifically: “Full Rigor” for incentives over \$100,000, “Tier 1 Medium Rigor” for incentives between \$25,000 and \$100,000, and “Tier 2 Lower Rigor” for incentives less than \$25,000. These are generally consistent with project size guidelines that determine the level of rigor for required project measurement and verification.
Finding 23	The criteria proposed in the working group guidance for determining whether the preponderance of evidence guidance (as a whole) is applicable or not are insufficient for the intended purpose.
Finding 24	We do not adopt the specific [POE] requirements for Tier 1 and Tier 2, as outlined in Section 6 of the working group guidance. For this reason, we prohibit the use of a tiered approach to the preponderance of evidence requirements until specific requirements for the tiers are adopted.”
Finding 27	Working group members did not agree to specific criteria defining the [POE] requirements for the lower rigor tiers (Tier 1 and Tier 2). Section 6 of the working group guidance document is a proposal authored by working group facilitators that reflects a middle ground and not a common ground and does not reflect a working group recommendation.
OP 22	We adopt a tiered approach to the preponderance of evidence, with three tier levels corresponding to the rigor of the assessment: Full Rigor for projects with incentives over \$100,000; Tier 1 Medium Rigor for projects with incentives between \$25,000 and \$100,000, and Tier 2 Lower Rigor for projects with incentives less than \$25,000.
OP 24	We do not adopt the specific preponderance of evidence requirements for Tier 1 and Tier 2, as outlined in Section 6 of the working group guidance. For this reason, we prohibit the use of a tiered approach to the preponderance of evidence requirements until specific requirements for the tiers are adopted.
OP 25	... We defer several issues to be addressed within the planned activities of upcoming [T2WG] ... We ask the [T2WG] ... Develop recommendations for what should constitute Tier 1 and Tier 2 Preponderance of Evidence requirements.”

## 5.2 T2WG RECOMMENDATION

First, to avoid confusion during working group discussions, the T2WG renamed the tier levels to “Low”, “Medium”, and “Full”:

- **Low** rigor, previously referred to as Tier 2, includes projects with incentive levels below.
- **Medium** rigor, previously referred to as Tier 1, includes projects with incentive levels between \$25,000 and \$100,000.
- **Full** rigor applies to projects with incentive levels greater than \$100,000

This task involves developing the POE guidance for the Low and Medium tiers, or for projects with incentive levels below \$100,000.

In the first T2WG meeting, Staff clarified its expectation that POE include the following three types of evidence or documentation requirements, for which the level of rigor for each component should scale with the tier level:

- Evidence of equipment operation
- Survey, questionnaire, or interview to establish influence
- A customer affidavit to ensure the project documentation is accurate

To address these and the issues raised during the T1WG discussions, T2WG identified five sub-tasks to complete the Task 2 proposal.

- **Task 2-1, Tier Thresholds** – whether the tier thresholds developed in T1WG and approved in the Resolution were sufficient to develop POE requirements that appropriately balanced rigor requirements with project value and risk.
- **Task 2-2, Evidence for equipment viability** – the documentation requirements to demonstrate the equipment viability component of POE
- **Task 2-3, Evidence for influence** – the documentation requirements to demonstrate the program influence component of POE
- **Task 2-4, Questionnaire administration** – which party would administer a survey, questionnaire, or interview to collect information, balancing cost and complexity of administration with the potential impacts of bias
- **Task 2-5, Customer Affidavit** – a statement to be signed by the customer to affirm accuracy of the information provided for POE

Table 4 (next page) shows the proposed POE approach for the medium, low, and a new “Very low” tier is followed by sections that provide additional detail about the proposal and relevant T2WG discussions..

#### Proposal 2, Approach for Tiered POE

Table 4 (next page) describes the POE requirements for projects with incentives below \$100,000 (i.e., projects that do not require the Full Rigor POE as defined in the T1WG report and approved in Resolution E-4818). This includes:



- A. The potential future definition of a “very low” tier level to differentiate requirements for very small projects, with the threshold to be defined by stakeholders as needed in the future.
- B. The use of a customer questionnaire to collect evidence of equipment viability and program influence.
- C. The six-question questionnaire provided in Table 5 (page 24).
- D. Administration of the customer questionnaire by the IOU or implementer.
- E. A customer affidavit using the language in Table 6 (page 26).

**Table 4. Proposed POE Requirements by Tier**

Task	Description	Topic	Very Low [1]	Low	Medium	Full [2]
2-1	Tier Levels	Incentive threshold	Up to \$5,000	From \$5,000 to \$25,000	From \$25,000 to \$100,000	Over \$100,000
2-2	Evidence of Equipment Viability	Physical evidence	Photos	Photos	Photos, plus IOU corroboration of meeting current needs	Photos, plus IOU corroboration of meeting current needs
		Questionnaire [3]	Q1-Q3	Q1-Q3	Q1-Q3	Q1-Q3, Q7-Q8, Q13-Q14
2-3	Evidence of Program Influence	Questionnaire [3]	Q4-Q6	Q4-Q6	Q4-Q6	Q4-Q6, Q9-Q12, Q15-Q16
		Customer interview?	No	No	No	Optional
2-4	Questionnaire Administration	Who administers questionnaire?	Customer/Implementer	Customer/Implementer	IOU	Third-party, starting in 2018 (IOU until then)
2-5	Customer Affidavit	Affidavit Statement [4]	Lines 1-4	Lines 1-5	Lines 1-5	Lines 1-6

**Commented [AR1]:** Probably need some detail on what this means

Table notes:

[1] T2WG discussed the concept of a “Very Low” tier for very small projects that warrant extremely limited or no review for POE; but the current proposal for “Very Low” is the same as for “Low”

[2] Although “full rigor” POE is not in the scope of the T2WG, we have included information on the full rigor approach in this summary table for reference.

[3] See the proposed questionnaire in Table 5 on page 24.

[4] See the proposed affidavit language on Table 6 on page 26.

### 5.2.1 Task 2-1: Tier Levels

Although E-4818 approved the tier levels, the working group discussed whether the \$25k incentive level was an appropriate cut-off between the low and medium tiers and whether there should be a lower threshold for very small projects (e.g., acknowledging that there should be different requirements for a \$5k and \$20k project).

Staff proposed a “Tier 0” or change to existing thresholds to distinguish rigor requirements within the lowest Tier, acknowledging that POE requirements should differ between \$5k and \$25k projects. Although E-4818 accepted the Tier levels defined in T1WG, T2WG stakeholders agreed a well-reasoned proposal to modify the Tier levels is appropriate for the T2WG report.

### 5.2.2 Task 2-2: Evidence of Equipment Viability

The POE requirement for equipment viability includes evidence of equipment operation and of its ability to remain in service meeting customer requirements for its RUL. During working group meetings, Staff often referred to this component of POE as asking: “Can the existing equipment continue to operate to meet customer needs?”

Staff suggested the following examples of evidence for equipment viability:

- A. Photos and videos
- B. Operating data
- C. Current and past maintenance and repairs history/records and costs
- D. Reliability history and issues
- E. Information on current plans or budgeting for expansions, remodels, replacements

The T2WG discussion on this topic highlighted goals among all stakeholders to balance rigorous screening with the value of information for different types or sizes of projects and to avoid making the POE policies more complex. For example, collecting the documentation of the types of evidence listed above, especially of information not normally collected by the customer or readily available, increases the transaction costs and customer burden. While important to ensure appropriate use of ratepayer funds, the cost of evidence acquisition should not outweigh the potential value of the project or program.

An implementer noted that items C, D, and E in the list above can be collected through a customer questionnaire and that baseline M&V data should demonstrate whether the existing equipment is operating and meeting current needs.<sup>3</sup>

The T2WG agreed that, for projects with incentive <\$25k (Low Rigor), the evidence requirement for equipment condition may be met through photo documentation and a questionnaire with an associated picture; but did not reach agreement on the specific requirements for “Medium” rigor projects.

The T2WG proposal (see Table 4, page 20) requires photo documentation and a questionnaire for “Low” and “Very Low” tier projects (i.e., projects with incentives less than \$25,000) with the incremental

Commented [AR2]: Need Staff’s opinion on this

<sup>3</sup> As an example, power data on a package HVAC unit will show how well the system is keeping up with the load at varying temperatures. If the unit is fully loaded at 75F and the climate zone design is 95F, it is reasonable to assume the equipment is not meeting the service needs for a significant part of its operation

requirement of “IOU corroboration of meeting current needs” for “Medium” tier projects (i.e., projects with incentives between \$25,000 and \$100,000).

**Commented [AR3]:** Need some detail on what this means

The proposed T2WG questionnaire for the Very Low, Low, and Medium tier levels includes questions includes the following three questions on equipment viability in a general six-question questionnaire (which also serves the program influence component of POE). To meet the POE requirements for equipment, if the customer must exceed a score of 0.

**Commented [AR4]:** Need clarification on the scoring goals for questionnaire

### 5.2.3 Task 2-3: Evidence of Program Influence

The other component of POE is evidence of program influence. During working group meetings, Staff often referred to this component of POE as asking: “*Would* the existing equipment continue to operate to meet customer needs?” In other words, would the customer have continued to operate his or her existing equipment without the technical, financial, or other influence of the program.

Staff stated its expectation that a survey, questionnaire, or interview collect information on the customer’s decision-making process and demonstrate how the program influenced a change in the customer’s choice either by information on alternate choices or financial support or both. Additional evidence may include documentation establishing the customer’s choice of a lower efficiency lower cost alternative prior to program intervention.<sup>4</sup>

#### General or Program-Specific Questionnaires

Stakeholders differed in their perspectives on whether the questionnaire should be general or program-specific. Staff provided an example questionnaire for HVAC projects as a guide on the types of questions an influence questionnaire should contain, but indicated that the types of questions depend on variables including the measure, market, and project size.

However, other stakeholders suggested that the concepts are similar enough such that a general questionnaire should be sufficient. An implementer noted that and that measure-, program-, or industry-specific questionnaires would increase cost and time for program implementation because each questionnaire would need to be developed and then reviewed and approved by Staff.

The T2WG proposal for the Very Low, Low, and Medium tier levels is to assess program influence using three questions in a general six-question questionnaire for which the customer must exceed a score of 0 from satisfy the program influence component of POE. See Table 5 on page 24.

#### Customer Interview

Participants differed in their perspectives on whether an interview should be conducted at all.

The T2WG proposal indicates no customer interview is required beyond the customer questionnaire for Very Low, Low, or Medium tier projects (e.g., projects with incentives less than \$100,000)

#### Questionnaire Development

Stakeholders differed in their perspectives on whether the T2WG should develop the questionnaire.

---

<sup>4</sup> Staff stressed that this survey, questionnaire, or interview should be performed by (or in lower incentive projects, confirmed by) an independent party that has no financial interest in the results of the survey. This is discussed in the section on Questionnaire Administration.

An ex post reviewer suggested that a questionnaire developed by the T2WG should be considered advisory and subject to testing and validation. Rather, this stakeholder suggested that the T2WG identify the guiding principles to be considered in developing a questionnaire and that the questionnaire should be developed by an independent CPUC contractor as part of a study to be implemented in collaboration with the PAs.

Several implementers expressed concern of continued delays if the T2WG did not create a general questionnaire that could be implemented immediately.

The T2WG proposal includes the set of questions—three each to assess equipment viability and program influence—to complete the questionnaire for the Very Low, Low, and Medium thresholds.

**Proposal 2-1, Custom Questionnaire for POE**



T2WG recommends the six-question questionnaire and scoring scheme outlined in Table 5 to qualify equipment viability and program influence components of POE for projects with incentives below \$100,000 (i.e., projects that do not require the Full Rigor POE as defined in the T1WG report and approved in Resolution E-4818).

#### 5.2.4 Questionnaire Administration

T2WG participants differed in their opinions on who should administer the customer questionnaire, but reached some agreement for the lower tier levels:

- Staff and ORA indicated a strong preference that any survey, questionnaire, or interview be conducted by an independent party with no financial interest in the customer or project, but acknowledged the pragmatics of not doing this for lower tiers.
- IOUs and implementers Stakeholders acknowledge Staff's concern with a survey administered by an interested party (e.g., the project developer), but questioned the value that 3rd party administration of questionnaire adds to the process
- A participant also noted that self-certification on the POE (i.e., by signing the affidavit discussed in task 2-5) is comparable to accepting self-certification for the business qualification (Task 4).

One stakeholder asked whether the questionnaire was necessary as a separate activity if all relevant data are collected in the program audit (or other existing program process). Staff noted that, for some size of projects, these data could be collected by the implementer during regular program activities, and for very small projects, the questions should be part of program design.

The T2WG proposal is that the customer or implementer would administer the questionnaire for the Very Low and Low levels (i.e., projects less than \$25,000) and that the IOU (e.g., account rep) would administer the questionnaire for the Medium tier level (i.e., projects between \$25,000 and \$100,000).

**Table 5. Proposed Customer Questionnaire for Very Low/Low/Medium POE**

#	Question	Response and Score				
		-2	-1	0	+1	+2
Equipment Viability						
Q1	Agree or disagree: My current equipment provides sufficient performance, capacity, and reliability to meet my current needs.	Strongly Agree (+2)	Agree (+1)	Neither agree nor disagreed (0)	Disagree (-1)	Strongly Disagree (-2)
Q2	How likely is it that your equipment needs will significantly change within the next 3-5 years?	Very likely (-2)	somewhat likely (-1)	Neither likely nor unlikely (0)	Somewhat unlikely (+1)	Very unlikely (+2)
Q3	Agree or disagree: The required maintenance on this equipment has increased over the past three years.	Very significant (-2)	Significant (-1)	Neither significant nor insignificant (0)	Insignificant (+1)	Very Insignificant (+2)
Program Influence						
Q4	Agree or disagree: I was planning a this space renovation or equipment upgrade prior to contact with the Program.	Strongly Agree (-2)	Agree (-1)	Neither agree nor disagreed (0)	Disagree (+1)	Strongly Disagree (+2)
Q5	How did the potential availability of incentives affect your decision to implement this project?	Greatly accelerated (-2)	Accelerated (-1)	Did not affect (0)	Decelerated (+1)	Greatly Decelerated (+2)
Q6	How did the technical information, program services, and recommendations from the program affect your decision to implement this project?	Greatly accelerated (+2)	Accelerated (+1)	Did not affect (0)	Decelerated (-1)	Greatly Decelerated (-2)

**Commented [AR5]:** Questions may need an edit



### 5.2.5 Customer Affidavit

The customer affidavit is intended to ensure that the information provided by the customer in the customer questionnaire (Task 2-3) is accurate. The T1WG discussions wrestled primarily with the severity of the statement language, specifically the reference to potential legal action against the customer.

Staff recommended that the affidavit:

1. Inform the customer that the treatment they are applying for involves requirements that exceed those of “standard” offerings and requires additional information to confirm eligibility, but that they may eligible for the “standard” offerings independent of their eligibility for this offering;
2. Include legal language confirming the accuracy of the information they supply that is used to make the determination of eligibility for AR treatment; and
3. Include consequences of contrary findings, such as eligibility for AR treatment on the project impacted.

Other stakeholders commented that:

- The threat of perjury or other legal action may deter customers from participating in the programs.
- It is important that the affidavit notify participants about potential change in the amount of approved incentive should the affidavit found to be erroneous and include a clawing back provision for paid incentives.
- Most customers will not know the difference between the different measure treatments (e.g., accelerated replacement vs. normal replacement) and should not have to acknowledge an understanding of the program rules.

The T2WG agreed that customers should be able to certify the accuracy if information they provided for a project application without the threat of criminal action or any references to “penalty of perjury.”

#### Proposal 2-2, Customer Affidavit Statement

The customer or customer representative who completes the POE questionnaire will sign an affidavit with some fraction of the following statement depending on the POE Tier Level as outlined in Table 7:



*[1] I, (name), hereby certify that I am authorized to make this declaration as the Customer or as an authorized representative of the Customer (name). [2] By signing below, I certify that the above is true and correct to the best of my knowledge. [3] I acknowledge that misrepresentation will result in a rejection of all or part of the project [4] and that I may be required to return the incentives associated with this project. [5] I further acknowledge that misrepresentation will result in future projects subjected to additional scrutiny [6] and that repeated offenses may result in probation or suspension from current and future incentive programs.*

Table 6 shows which lines of the affidavit statement would be required for each POE level.

- Lines 1 through 4 would be required for all levels.

- Line 5 would be required for all levels except for the “very low” rigor level if the stakeholders decided to create a “very low” POE level in the future.<sup>5</sup>
- Line 6 would only apply for projects with incentives large enough to require the Full Rigor POE.
- The proposal specifically does not include the statement “I declare, under penalty of perjury under the laws of the State of California, that the foregoing is true and correct” due to stakeholder concerns about customer response to the threat of legal action.

**Table 6. Affidavit Summary for Task 2, Tiered POE**

#	Question	Addresses	Rigor			
			Very Low	Low	Med	Full
1	I, (name), hereby certify that I am authorized to make this declaration as the Customer or as an authorized representative of the Customer (name).	n/a	Y	Y	Y	Y
2	By signing below, I certify that the above is true and correct to the best of my knowledge.	n/a	Y	Y	Y	Y
3	I acknowledge that misrepresentation will result in a rejection of all or part of the project...	Consequences - current ineligibility	Y	Y	Y	Y
4	...and that I may be required to return the incentives associated with this project.	Consequences - clawback	Y	Y	Y	Y
5	I further acknowledge that misrepresentation will result in future projects subjected to additional scrutiny...	n/a	TBD	Y	Y	Y
6	...and that repeated offenses may result in probation or suspension from current and future incentive programs.	Consequences - future ineligibility	N	N	N	Y
7	I declare, under penalty of perjury under the laws of the State of California, that the foregoing is true and correct.	Consequences - legal action	N	N	N	N

<sup>5</sup> The stakeholders have proposed the option for a “very low” POE level in the future but are not requesting to implement it immediately.

## 6 TASK 3 – REPAIR-ELIGIBLE/INDEFINITELY

Develop qualification standards and documentation requirements to identify repair eligible and repair indefinitely measure types.

### 6.1 BACKGROUND

The T1WG identified three sub-types of Accelerated Replacement (AR), including two categories for which the existing equipment is not fully operational or has exceeded its EUL. The T1WG defined the categories based on the status of the existing equipment:

- **Early-retirement** – 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.
- **Repair-eligible** – The existing equipment needs a major repair to return the equipment to fully serving the load, and that repair cost is less than 50% of the full measure cost (FMC).
- **Repair-indefinitely** – The existing equipment exceeds its EUL and has a history of repair and maintenance and could continue to be maintained to serve the load for the RUL of the existing equipment.

The T2WG report clarified that:

1. All three subtypes “are subject to proof of both program influence and the long-term viability” (based on the existing equipment status defined above); and
2. “Existing conditions and code define the first and second baselines, respectively, for all three sub-types, where the repaired state is considered existing conditions for the repaired measure.”

The Resolution adopted the three categories and the described dual baseline approach,<sup>6</sup> but did not accept the proposed definition of repair-eligible and did not adopt the use of repair cost in determining equipment eligibility-based definitions.<sup>7</sup>

The resolution also offered the following “simplifying principles” [E-4818 at 31]:

- “For deemed and calculated savings determinations, existing conditions baselines must reflect rated equipment efficiency, or apply an adjustment factor to reflect the portion of savings that are retrocommissioning or operational in nature.

<sup>6</sup> E-4818 at 29: “We adopt the recommendation that accelerated replacement include three sub-categories [repair eligible, repair indefinitely, and early retirement], and that each be treated equivalently with respect to the dual baseline approach. However, we do not adopt the definition of repair-eligible that is proposed in the draft guidance document, due to apparent risk and complexity...”

<sup>7</sup> E-4818 at 32: “...determining the longevity and costs of hypothetical repairs, and applying baselines that assume a future repair rather than replacement add to the complexity of baseline policy. Furthermore... the number of scenarios to consider expands quickly creating additional complexity and potential for confusion and misinterpretation. For these reasons, we do not adopt the use of repair cost in determining equipment eligibility-based definitions. Instead we ask the [T2WG] to address qualification standards and evidence to determine repair eligible / repair indefinitely equipment.”

- Replacement of equipment that is broken, poorly performing or not able to meet its load requirement must apply a normal replacement baseline. This includes replacement of broken add-on equipment.
- All accelerated replacement types (repair eligible, repair indefinitely, early retirement) receive the same dual baseline treatment, consistent with the current definition of dual baseline in the Energy Efficiency Policy Manual. However, equipment older than its EUL may qualify for accelerated replacement baseline treatment if it is determined to be repair eligible or repair indefinitely.”

Table 7 shows the Resolution Findings and Orders directly related to this topic.

**Table 7. Resolution Comments on Repair-Eligible/Indefinitely**

Location	Resolution Language
Finding 5	The broad application of existing conditions baseline demands clear distinctions between repairs that are eligible for ratepayer funded energy efficiency programs and those that are not.
Finding 15	It is reasonable to define the accelerated replacement installation type as three sub-categories: early replacement, repair eligible, and repair indefinitely.
Finding 17	Equipment that is older than its effective useful life may qualify for an accelerated replacement baseline treatment where it is determined the equipment is either repair eligible or repair indefinitely.
Finding 18	We do not have a process or evidence requirements for how equipment could be qualified as repair indefinitely. The working group also did not assign any measures to this category.
OP 14	We adopt the working group proposal that accelerated replacement is comprised of three sub-categories: early replacement, repair eligible, and repair indefinitely, which shall use equivalent dual baseline savings and cost effectiveness calculations for deemed and calculated downstream programs.
OP 16	We permit the Program Administrators to apply an accelerated replacement baseline treatment to equipment that qualifies as repair eligible or repair indefinitely where the equipment is older than its predetermined effective useful life.
OP 25.	... We ask the Track 2 working group ... develop qualification standards and documentation requirements to identify repair eligible and repair indefinitely measure types.

## 6.2 T2WG RECOMMENDATION

The T2WG proposes simplifying the approach to repair-eligible and repair-indefinitely measure types by eliminating the distinct POE requirements for each sub-type—and therefore having a single POE requirement for any accelerated-replacement measure type—but requires clarification from the Commission on two aspects eligibility: (1) whether broken equipment may qualify as repair-eligible and (2) whether the existing conditioned can qualify as the standard practice second baseline for a qualifying repair-indefinitely measure.

**Proposal 3-1, Repair-Eligible/Indefinitely Measure Types**

Eliminate the use of repair-eligible and repair-indefinitely as distinct measure categories with distinct policy results and, instead, treat one simple measure category for accelerated replacement with a single set of policy rules.

Commission staff suggested that Task 3 came about to address a common practice of automatically disqualifying equipment that was older than its effective useful life (EUL). Although there is no rule or policy that disallows the replacement of old equipment, some stakeholders have thought there was a rule and/or practiced the rule that equipment older than its EUL could not qualify for a custom incentive.

Staff confirmed there is no such policy, and Resolution states that “Equipment older than its EUL may qualify for accelerated replacement baseline treatment if it is determined to be repair eligible or repair indefinitely.” With this clarification, T2WG questioned whether there was need for more than one category of accelerated replacement. All equipment, regardless of age, are eligible for early retirement provided they meet the POE requirements for equipment viability (i.e., can the customer repair the equipment?) and influence (i.e., would the customer have repaired in the absence of the program?).

**Proposal 3-2, Repair-Eligible/Indefinitely Qualification**

Measures may qualify as repair-indefinitely through one of the following methods:

- Pre-qualification for classes of equipment
- Case-by-case qualification for measures/projects

Staff stated its preference to have an approach that encourages pre-qualification of equipment types as eligible for repairs while allowing simplified site-specific criteria. Staff proposed that CPUC will develop a submission/review/approval process for the PAs to submit equipment types that are proposed for this treatment. The submittal would include the equipment types (reference to specific measures, workpapers, etc.), the programs authorized to use the treatment, the evidence supporting the treatment and the criteria that will be used at the site/project/measure level to qualify specific equipment.

Some stakeholders encouraged the concept of market studies to inform which measures were appropriate for repair baselines, as such studies could support other aspects of programs design like identifying which measures are ISP and emerging technology.

Still, some stakeholders stressed the need to also allow project-specific qualification of measures as repair-eligible/indefinitely, especially for unique industrial and agricultural customers or systems for which the market may be too small or warrant a market study. The proposal to treat repair-eligible/indefinitely measures through the standard tiered POE approach (see Task 2) satisfies this stakeholder request.

**Question 3-1, Broken Equipment**

Can broken equipment be eligible for early-replacement if meets the POE requirements of equipment viability and influence?

The Resolution states in its “simplifying principles” noted above that “replacement of equipment that is broken, poorly performing or not able to meet its load requirement must apply a normal replacement baseline.” This statement caused confusion among stakeholders who interpreted the adoption of the repair-eligible measure type as an endorsement of the potential for a broken but repair-eligible equipment to qualify as accelerated replacement.

Staff believes that the Commission policy is clear that broken or non-operational equipment is not eligible for an accelerated replacement baseline and that the replacement of broken equipment can only qualify as a normal replacement scenario. Staff also suggested that the program-induced early-replacement of broken equipment is an unlikely scenario. Considering the time and resource requirements to participate in the Custom Program, a customer – especially an industrial customer – is unlikely to wait around to fix a piece of equipment). Rather, the customer will either replace the equipment (introducing a normal replacement scenario) or repair the equipment (introducing a repair-eligible/indefinitely scenario). If they repair the equipment, then the measure/project could qualify as an early replacement (of repaired equipment).

However, some stakeholders argued that the repair-eligible measure type was designed specifically to address broken by repair-eligible equipment. A customer with a broken equipment has two options: (1) replace the broken equipment or (2) repair and continue using the broken equipment. The first case, in which the customer would choose to replace the broken equipment, is clearly a normal replacement scenario. The second case, in which the customer would choose to repair the broken equipment, should qualify as an accelerated replacement scenario.



**Question 3-2, Repair-Eligible/Indefinitely as Standard Practice Baseline**

Can existing conditions serve as second baseline for a repair-indefinitely measure if evidence demonstrates that the existing conditions is the standard practice baseline?

Repair-indefinitely refers to scenarios in which the customer continues to repair broken or degrading equipment rather than replace the equipment. Stakeholders indicated that this repair-indefinitely treatment is most common in industrial and agricultural sectors, where equipment may be expensive and specialized. Stakeholders also discussed classes of equipment – e.g., boilers – that often operate much longer than their EULs due to continual customer repair.

Where repair-indefinitely measures quality as early-retirement, the existing conditions represents the first baseline (RUL = 1/3 EUL), and the standard practice (see definition in Task 1) represents the second baseline (2/3 EUL). Some stakeholders argued that, for repair-indefinitely scenarios (i.e., for which the customer would have continued to repair the existing equipment), the standard practice *may be* the existing conditions.

Staff disagreed that existing equipment or existing conditions could count as the second baseline because it did not agree that existing equipment or conditions could qualify as ISP.

## 7 TASK 4 – SMALL BUSINESS DEFINITION

Develop qualification standards and documentation requirements to identify a small-sized business customer.

### 7.1 BACKGROUND

In its POE Guidance Document, the T1WG proposed “a simplified POE protocol to demonstrate accelerated replacement of small and medium size projects.”<sup>8</sup> The T1WG Report proposed that identified the following circumstance as an example of a “direct-to-decision” qualification approach for which “the combination of site-specific or program-level evidence provided is sufficiently compelling such that further [POE] assessment is not necessary:

*Custom measures installed through residential and small commercial direct install programs [where CPUC Staff must pre-approve the direct install program as being appropriate for such classification.]*

The Resolution accepted the proposal for a simplified POE pathway for small businesses, with specific conditions, and directed the T2WG to “recommend a statewide definition of a small sized business and associated evidentiary requirements to verify this classification” [E-4818 at 47].

Table 8 summarizes Resolution findings and orders related to this topic.

Table 8. Resolution Language on Task 4

Location	Resolution Language
Finding 26	There is not a consensus across stakeholders in how to identify and verify a small business customer in a manner that can be cost-effectively replicated over many participating customers. Such a standard is needed to design and implement any ‘direct-to-decision’ treatment (per as outlined in this resolution, where the customer eligibility includes a small business designation.
OP 25	... We ask the Track 2 working group to ... Develop qualification standards and documentation requirements to identify a small-sized business customer.

### 7.2 T2WG DISCUSSION

This section describes key topics discussed and difference perspectives resulting in multiple proposals for the small business definition.

#### Purpose of the Small Business Pathway

CPUC Staff expressed that the goal was to create a simple process to support a category of hard-to-reach small customers who have not been served because they are too small, and confirmed small business definition was not intended to expand to all small business customers. Staff clarified that The Commission’s interest is to provide a small business definition and default AR designation of their measures to allow higher incentives and get new participation from that class of customer that previously has not participated because the offerings do not provide enough incentive to change their

<sup>8</sup> T1WG Report, Appendix B, page 6.

decisions. The new baseline policies are intended to get added participation, not to pay more for the current participation.<sup>9</sup>

T2WG participants generally agreed that the goal of the small business definition is to provide a path for small businesses customers who either do not have the technical or financial means or for which projects aren't large enough to support rigorous data collection and review to participate in the custom programs. But IOUs and implementers indicated that customers must be large enough to have potential energy efficiency projects large enough to warrant to administrative costs of the custom programs.

#### **Small Customers vs. Small Projects**

Stakeholders perspectives differed on whether the small business pathway was intended to apply to small customers, small projects, or both.

Staff/Consultants clarified that the small business pathway was meant to for small customers and not small projects, indicating that the intent was to allow a pathway for small customers to participate in the programs. Staff expressed concern that project developers could break large projects for large customers into multiple small projects and wanted to protect against that.

Stakeholders noted that the program should provide a simplified pathway for small projects to balance the cost of review with the value of the project, but acknowledged that small projects still had an opportunity for simplified POE pathways through other "direct to default" program designs or through the "Low Rigor" POE pathway.

T2WG participants agreed that the definition should focus on identifying and qualifying eligible customers rather than projects.

#### **Evidence/Data Requirements**

IOUs and implementers urged the use of readily-available data (e.g., utility metered energy consumption) to determine eligibility, noting that additional data collection is an additional cost to both the customer and project developers.

Participants encouraged the use of the following types of data to minimize the cost of data acquisition and to facilitate targeted implementation for small customers (for which potential EE projects are also small):

- Energy consumption, because IOUs have consistent access to these data
- Specific market segments, such as non-profits or municipal customers (e.g., a high school), that would benefit from an expedited review
- Comparing project size relative to business size;

Participants discouraged the use (as the only criterion) of customer income or revenue, because project developers do not have access to these data, and a requirement to share revenue may deter customers from participating in an energy-efficiency project or programs.

---

<sup>9</sup> Staff shared the Decision 16-08-019 states the "experiment" will have failed and the policy will need to be changed if the only effect is to pay more for the current participation.



### Customer Size / Annual Consumption

Participants agreed on the use of energy consumption data as a criterion for small business qualification, but disagreed on appropriate energy thresholds for this definition. Staff preferred to keep the thresholds low to limit the percentage of customers who would automatically qualify for the simplified POE pathway, while IOUs and implementers argues that the thresholds had to be high enough to qualify customers who warrant custom projects. The T2WG proposals, described in the next section, highlight these differences.

## 7.3 T2WG RECOMMENDATION

The T2WG did not reach consensus on this task. Instead, this reports presents three distinct proposals for the eligibility criteria through which a customer may qualify for a simplified POE pathway:<sup>10</sup>

- Proposal 4A – California Small Business Tariff Definition
- Proposal 4B – T2WG Commercial/Industrial Definition
- Proposal 4C – T2WG Hybrid Definition



#### Proposal 4-1, Small Business Definition

The T2WG requests the Commission select one of these proposals—4A, 4B, or 4C—described in this report or otherwise provide guidance based on the goals of the simplified POE pathway for small business customers.

**Commented [AR6]:** One other discussion that came up during the Business Plan metric workshop was to align this definition with the definition of small business in IOUs business plans (Kay Hardy, CPUC) – should this be on the table as a proposal as well?

#### Proposal 4A – California Small Business Tariff Definition

A customer qualifies as a small business customer if it meets the definition of small business adopted by the CPUC for use in IOU tariffs (Table 9).

<sup>10</sup> The T2WG also discussed a fourth proposal to use the California Small Business Certification. However, stakeholders rejected this proposal as too onerous for many small businesses, noting that the documentation requirements for certification contradicted with the goals of a simplified participation process for small customers.

**Table 9. Small Business Eligibility Requirements, Proposal 4A**

**Small Business Eligibility Requirements<sup>11</sup>**

A small business customer is defined as a non-residential customer with an annual electric usage of 40,000 kilowatt hours (kWh) or less, or an energy demand of 20 kilowatt (kW) or less, or annual consumption of 10,000 therms of gas or less. Alternatively, a small business customer is a customer who meets the definition of “micro-business” in California Government Code Section 14837 (Section 14837). Section 14837 defines a micro-business as a business, together with affiliates, that has average annual gross receipts of \$3,500,000 or less over the previous three years, or is a manufacturer, as defined in Section 14837 subdivision (c), with 25 or fewer employees. The California Department of General Services is authorized to amend the gross receipt amount. In January 2010 DGS increased the gross receipt amount from \$2,750,000 to the current amount of \$3,500,000. (see, California Office of Administrative Law, Regulatory Action Number 2000-1110-01S.) This definition does not include fixed usage or unmetered rate schedule customers.

OP 3: “... non-residential customers may self-certify as a micro-business under Government Code Section 14837.”

**Commented [AR7]:** Clarifying question for Staff – Is there a revenue option for businesses with operations less than three years?

Staff, who proposed and support this proposal, clarified that:

- **The definition allows for multiple eligibility pathways.** For example, a manufacturer with 25 or fewer employees qualifies even if it exceeds the energy thresholds. Similarly, a business with gross annual receipts of \$3.5M or less may qualify regardless of its energy consumption.
- **Customers may self-certify** by signing a “self-certification” form (e.g., similar to SCE Form 904) stating that it meets the small business eligibility requirements. An implementer noted that self-certification for this proposal is key to simplify the qualification when using gross revenue and number of employees, which will likely be used most since the energy levels are so low.

Staff supports this definition for the following reasons:

- The definition is based on data specific to the California market.
- The definition has already been litigated and adopted by the CPUC.
- The definition is already in use by all four IOUs.

Several stakeholders expressed concern that the Proposal 4A qualifying criteria, especially the energy levels, are too limiting to support the intent of Task 4 to create a pathway for increased energy efficiency activity with small customers who otherwise cannot participate in the programs. IOUs commented that few customers would qualify under these Proposal 4A criteria, forcing IOUs to pursue other pathways—such as developing market-specific direct-to-default programs that must be approved by CPUC staff or using the standard POE requirements—to treat many small business customers and effectively rendering the Task 4 solution useless for most small customers.

An implementer who focuses on the small-business market noted that the Proposal 4A energy thresholds (< 20 kW and < 40,000 annual kWh) are too low in practical terms. For example, the 40,000

<sup>11</sup> Decision 10-10-032 (as corrected by Decision 10-11-037) - DECISION REVISING TARIFF RULES FOR SMALL BUSINESS CUSTOMERS

kWh per year threshold limits a project with 8% energy savings to a \$256 incentive,<sup>12</sup> which does not cover the administrative cost for a custom project and therefore would likely not be pursued.

IOUs and implementers also suggested that the T2WG should not limit proposals to existing definitions of small business since the resolution direction to “develop qualification standards and documentation requirements to identify a small-sized business customer” invited the T2WG to develop a new definition designed to meet the intent of the simplified POE pathway for small businesses. One implementer argues that T2WG should not use the CA Government Code definition of “micro business” as the definition “small business” without compelling justification and that no evidence has been presented to justify adopting a definition of “small business” that diverges from the above widely accepted definitions used for small business energy efficiency programs in other jurisdictions (see discussion for Proposal 4C).

#### Proposal 4B – T2WG Commercial/Industrial Definition

A customer qualifies as a small business customer if it satisfies any one of the criteria in Table 10.

**Table 10. Small Business Eligibility Requirements, Proposal 4B**

Criteria	Commercial Customers	Industrial Customers
Low Energy User	< 250 kW of average demand < 1.5 million kWh/year < 50,000 therms/year	< 400 kW of average demand < 2.5 million kWh/year < 100,000 therms/year
Facility Size	< 50,000 sq.ft.	n/a
Number of Employees	n/a	< 10
Registered or certified small business in California <sup>13</sup>	Yes	Yes

A stakeholder proposed these criteria based on their experience of the type of customers and projects served in the programs and feedback from T2WG participants. The proposal provides distinct qualifying criteria for commercial and industrial customers and offers multiple qualification pathways (i.e., a customer . For example, a customer may qualify by meeting the “Low Energy User” criteria or the “Facility Size” criteria but is not required to meet both.

Staff opposed the energy thresholds in Proposal 4B as too high and requested stakeholders provided evidence to support the proposal for these higher energy thresholds.

#### Proposal 4C – T2WG Hybrid Definition

A customer qualifies as a small business customer if it meets any one of the criteria in Table 11.

<sup>12</sup> 40,000 kWh/year \* 8% energy savings \* \$0.08 per kWh savings = \$256.

<sup>13</sup> Weblink: <http://www.dgs.ca.gov/pd/programs/osds/sbeligibilitybenefits.aspx>

**Table 11. Small Business Eligibility Requirements, Proposal 4C**

Small Business Eligibility Requirements
<ul style="list-style-type: none"> <li>• Customer is a registered or certified small business in California<sup>14</sup></li> <li>• Customer meets the Proposal 4A criteria</li> <li>• Electric customer has &lt; 100 kW of average demand or usage of &lt;500,000 kWh per year</li> <li>• Gas customer has gas consumption &lt; 50,000 therms per year</li> </ul>

A implementer focused on the small business market offered this “hybrid” proposal that pairs Proposal 4A with higher energy thresholds calculated based on incentives limits (as a way to gauge portfolio risk) and comparable to national and state definitions of small business. The implementer offered the following benefits of Proposal 4C:

- **Proposal 4C sets the energy thresholds based on expected size and value of projects for small business customers.** The 500,000 kWh/year threshold limits the simplified small-business POE pathway to a \$3,200 maximum possible incentive for a project that saves 8% of the customer’s annual energy consumption.<sup>15</sup> Conversely, the 40,000 kWh/year threshold in Proposal 4A limits the simplified small-business POE pathway to a \$256 maximum possible incentive for a project that saves 8% of the customer’s annual energy consumption.
- **Proposal 4C defines small business customers similarly to other jurisdictions.** The federal definition of small business is based on revenue and/or number of employees and, although it varies by sector, is approximately equivalent to CA Government Code definition of small business. States such as Oregon, Massachusetts, Connecticut, Washington, Wisconsin, and Michigan define small business at or above 100 kW or 500,000 kWh; no states limit “small business” thresholds below 100kW or 500,000 kWh.
- **An examination of small business EE programs across the county found that three-quarters of the 25 studied small-business programs used peak demand as the eligibility criteria with 100 kW as the most common threshold (32%) followed by 200 kW (24%).** Just over 10% of programs used a facility square footage limit (e.g., <25k or 50k sq. ft.) and 12% of programs used total employees and/or annual spending.

As with Proposal 4B, Staff expressed concerns that the expanded energy thresholds are too high and open the simplified POE pathway—intended for underserved markets—to too many customers. Staff maintained that the energy consumption thresholds should be limit to the Proposal 4A criteria.

**Commented [AR8]:** Would this all be solved with the creation of a Tier 0 with limited POE for projects below \$5,000 or some threshold to be determined based on a review of cost vs. risk?

<sup>14</sup> Weblink: <http://www.dgs.ca.gov/pd/programs/osds/sbeligibilitybenefits.aspx>

<sup>15</sup> 500,000 kWh/year annual consumption \* 8% savings \* \$0.08 per kWh saved = \$3,200.

## 9 UPDATE ON TASKS 5 AND 6

Tasks 5 and 6 were assigned to the T2WG with no specific deadline. Although the T2WG prioritized Tasks 1 through 4 to meet the required deadlines, the working group continued discussions and made progress on Tasks 5 and 6. This section provides an update on the Task 5 and 6 discussions to date and describes the working groups proposed next steps for each task.

### 9.1 TASK 5 – ISP GUIDANCE

Through work preceding as well as working group discussions, T2WG participants developed a list of issues that need to be addressed for a revised ISP guidance document. These issues cover six main categories:

- Definitions
- Multiple Types/Applications of ISP Studies
- Custom/Site-Specific Baseline
- Application of ISP Findings
- ISP Study Process
- Leaders vs. Laggards

Stakeholders discussed the identified issues during the T2WG meetings and provided additional input to prioritize the most critical issues. Based on these inputs, PG&E developed a table to outline key components of ISP—including ISP study triggers, research justification, sample size, rigor level, and applicability—for each of three ISP study types. The table has been updated through an iterative process, but requires further discussion. The group envisions this table to be used as a blueprint for actual editing of the existing ISP guide.

Although this work has helped the group to resolve some of the underlying issues with the ISP process and generate and advance solutions for some issues, the T2WG participants require additional time to resolve all identified ISP issues and to create an action plan to revise the ISP guide based on that.

[Need Peter's input on specific proposal and timeline]

### 9.2 TASK 6 – CUSTOM STREAMLINING

Throughout the T2WG process, participants have identified various pain points and opportunities to improve the custom ex ante review process. These discussions have helped generate and advance solutions for some issues, and some solutions are emerging with support from participating stakeholders groups.

Participants require additional time to complete their review of the long list of issues and proposals developed to date, identify where consensus exists for proposals, develop an appropriate shortlist of priority proposals from the current long list, and design an action plan to implement solutions to streamline the custom review process.

T2WG proposes a specific extension from the Commission below for completion of Task 6.

### 9.2.1 Work to Date

T2WG's discussion around custom process pain points fit into two themes:

- Improving usability (helping concerned stakeholders better perform ex ante review); and
- Improving transparency (helping concerned stakeholders better understand roles and responsibilities in ex ante project review).

Each theme has been well documented in the past.<sup>16</sup> In future work, T2WG imagines utilizing these themes as focus areas for categorizing pain points, prioritizing action plan efforts, and evaluating and mapping proposed solutions. This approach will yield a future work product containing proposals for Commission review that will address with documented ex ante review challenges for custom projects.

#### Improving Usability

For this focus area, there are two key ideas currently under discussion:

- Standardizing materials; and
- Centralizing information.

The first idea—standardizing materials—encapsulates an effort to create where possible statewide-consistent custom project materials from development through review phases. T2WG participants have identified such standardization as a key way to improve the experience of ex ante review for all stakeholders, including the customer, implementer, technical reviewer, and other IOU Staff. Example items that may benefit from standardization include project development templates, savings calculation guidelines, technical review forms, and d) project feasibility reports. This standardization effort also has the potential to improve quality by adopting what's already working across different PAs, while helping to streamline the ex ante review effort. An indirect but indirect byproduct may include contributions towards meeting timeline commitments made under an SLA and reducing overall timelines for the custom process.

The second idea—centralizing information—is a well-documented challenge,<sup>17</sup> but one that T2WG has identified as existing beyond the need for collecting disposition guidance. Due to the complexity and uniqueness of the California custom ex ante review process and the frequency of changes, active and new stakeholders need a resource such as an online landing page for understanding historical policy on the custom process, subsequent technical guidance issued based on project type reviews, approved engineering calculation and tools, and other elements that enable a comprehensive understanding of the custom program policy rules and processes.

The success in developing a comprehensive resource for accessing ex ante review information lies in developing its subcomponents in a manner where the organization and search-ability of the information is prioritized. This will likely mean that sources of information such as dispositions are redesigned or modified in format to support public access and search-ability where needed. If done right, a comprehensive ex ante review resource will serve as a critical component to improving usability.

---

<sup>16</sup> D.15-10-028, p.94-102; D.16-08-019, p. 38.

<sup>17</sup> D.11-07-030, Attachment B, p. B10; D.15-10-028, p. 97-98..

### Improving Transparency

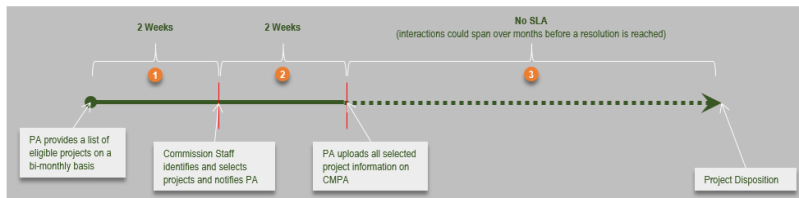
For this focus area, there are two key ideas currently under discussion:

- Increased high-value collaboration; and
- Service level agreements (SLA) for the ex ante review process.

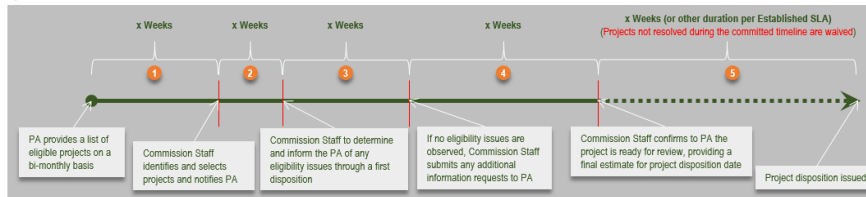
As part of the first idea, T2WG participants are searching for new ways to collaborate. Current focus is on developing targeted mechanisms for project collaboration that might help improve overall quality without burdening any party excessively with high-volume, low-benefit activity. Examples include structured early collaboration meetings on high-impact projects, and improving information-sharing on ex ante review dispositions and lessons learned. Once identified and successfully developed, additional high-value collaboration is envisioned to help with transparency plus overall ex ante project quality and timing.

For the second idea, stakeholders are discussing a service-level agreement (SLA) model of establishing the duration for various steps in the custom process. An example model tied to steps in the custom review process is provided below (for illustrative purposes only).

Current Process & Timeline for Ex Ante Review



Proposed Process & Timeline for ED's Ex Ante Review



T2WG participants are continuing to discuss acceptable timeframes for various steps in the Custom EAR process as well as expectations for advancing a project after a lapse in timeframe.

A finalized SLA among parties is at present thought to be a critical component towards establishing greater transparency in the ex ante review process, allowing implementers, PAs, and the CPUC to manage expectations with each other and their customers. Equally important, an SLA model has the potential to improve timing for reviews and track performance of various parties against agreed upon timelines.

#### 9.2.2 T2WG Recommendation

The above documentation of T2WG Task 6 work to date is intended to be represent the robust discussion and ideas development to date—but neither a comprehensive list of ideas under discussion

nor a representation of final proposals. Participating stakeholders remain committed to advancing custom process improvements over a timeframe that extends through the first quarter of 2018, with various improvements envisioned to be completed prior to that date. The desire is to keep going, under an identical format of producing a work product due on or before April 2, 2018, that would be subject to Commission review and adoption in Resolution form where needed.<sup>18</sup>

**Proposal 6-1, Custom Streamlining**



The T2WG recommends the Resolution include an Ordering Paragraph as follows: “We order the Track 2 Work Group to continue the work underway to address streamlining of ex ante review processes, delivering its recommendations to Commission no later than April 2, 2018. These recommendations will be vetted through a public process and the final document will be posted to a publicly available website.”

**Commented [AD9]:** Adopted this timeline per Rich feedback yesterday, assuming we all agree we can launch items before then as well.

**Commented [AD10]:** This date intend to reflect end of Q1. March 31, 2018, is a Saturday, so selected next business day.

DRAFT

<sup>18</sup> T2WG stakeholders acknowledge that, depending on final proposals for custom ex ante improvement ideas, there may be instances where Commission review is not required (D. 16-08-019, p. 41). Future final work product would report out and document these types of improvements in brief, but focus only on proposals requiring Commission review and approval.



## 10 SUMMARY OF T2WG PROPOSALS AND QUESTIONS

This section lists the T2WG proposals and questions presented by topic in the main body of this report.

Proposal/Question	Page	Page
Proposal 1, Standard Baseline Definition	Adopt the T2WG Proposal for Standard Practice Baseline Definition.	11
Question 1-1, Transition Period	What is the appropriate effective date or transition period for projects that trigger market-based ISP studies? Is it reasonable to hold the project under ex ante review until the study is complete? Or can the project move to Step 2 of the Standard Practice Baseline selection process? (See Appendix A, Ongoing or Directed ISP Study section, for more detailed discussions on this topic.)	13
Question 1-2, Designated Website	Can “CPUC Ex Ante Review Custom Process Guidance Documents” page at <a href="http://www.cpuc.ca.gov/General.aspx?id=4133">http://www.cpuc.ca.gov/General.aspx?id=4133</a> be used as a repository of all published ISP studies? If not, where is the most appropriate location (a website or a repository) to deposit all published ISP studies?	14
Question 1-3, Lowest First Year Cost vs Most Common Option	What should be the standard practice baseline if Step 2 yields more than two feasible options? (See Appendix B, Lowest First Year Cost Option section, for detailed discussions and supporting argument for each recommendation)	15
Proposal 2, POE Approach for Tiered POE	Table 3 describes the POE requirements for projects with incentives below \$100,000. This includes: A. The potential future definition of a “very low” tier level to differentiate requirements for very small projects, with the threshold to be defined by stakeholders as needed in the future. B. The use of a customer questionnaire to collect evidence of equipment viability and program influence. C. The six-question questionnaire provided in Table 5 (page 24). D. Administration of the customer questionnaire by the IOU or implementer. E. A customer affidavit using the language in Table 6 (page 26).	20
Proposal 2-1, Custom Questionnaire for POE	T2WG recommends the six-question questionnaire and scoring scheme outlined in Table 5 to qualify equipment viability and program influence components of POE for projects with incentives below \$100,000.	24
Proposal 2-2, Customer Affidavit Statement	The customer or customer representative who completes the POE questionnaire will sign an affidavit with some fraction of the following statement depending on the POE Tier Level as outlined in Table 5:	25
Proposal 3-1, Repair-Eligible/Indefinitely Measure Types	Eliminate the use of repair-eligible and repair-indefinitely as distinct measure categories with distinct policy results and, instead, treat one simple measure category for accelerated replacement with a single set of policy rules.	29

Proposal/Question	Page	Page
Proposal 3-2, Repair-Eligible/Indefinitely Qualification	Measures may qualify as repair-indefinitely through one of the following methods: • Pre-qualification for classes of equipment • Case-by-case qualification for measures/projects	29
Question 3-2, Broken Equipment	Can broken equipment be eligible for early-replacement if meets the POE requirements of equipment viability and influence?	29
Question 3-2, Repair-Eligible/Indefinitely as Standard Practice Baseline	Can existing conditions serve as second baseline for a repair-indefinitely measure if evidence demonstrates that the existing conditions is the standard practice baseline?	30
Proposal 4-1, Small Business Definition	The T2WG requests the Commission select one of these proposals—4A, 4B, or 4C—described in this report or otherwise provide guidance based on the goals of the simplified POE pathway for small business customers.	33
Proposal 5-1, ISP Guidance	[Need Peter's input on specific proposal and timeline]	37
Proposal 6-1, Custom Streamlining	The T2WG recommends the Resolution include an Ordering Paragraph as follows: "We order the Track 2 Work Group to continue the work underway to address streamlining of ex ante review processes, delivering its recommendations to Commission no later than April 2, 2018. These recommendations will be vetted through a public process and the final document will be posted to a publicly available website."	39

#### Other T2WG Comments and Recommendations

[Placeholder for additional Stakeholder comments and recommendations that are not part of Tasks 1-4.  
Are there other comments stakeholders want to include here?]

- Stakeholders are concerned that the policy has become too complex.
- Stakeholders are concerned that the policy remains too vague in some cases or not objective enough.

## APPENDIX B. STANDARD PRACTICE BASELINE ITERATION HISTORY

This section shows a redline version of the Standard Practice Baseline document and summarizes revision history of the document section by section, based T2WG discussions and comments.

### Section 1: Background

*"The Standard Practice Baseline is synonymous with a "code" baseline and is generally [1] used as the single baseline for Normal Replacement ~~(including, Replace on Burnout, New Load and New Construction)~~ measures as well as the second baseline [2] for Accelerated Replacement (AR) measures as well as the second baseline for Accelerated Replacement measures. This document only details the baseline selection process; it does not discuss measure eligibility or the review and verification of the selected baseline."*

[1] *"For example, the baseline used for energy efficiency savings reporting and incentives shall not regress to a lower efficiency than the existing equipment"*

[2]: *"The second baseline applies to the time period from the end of the remaining useful life (RUL) of replaced equipment to the effective useful life (EUL) of the measure"*

#### Discussion Summary

Stakeholder stated that when establishing a baseline the following should be considered:

- baseline cannot be regressive, have lower efficiency than existing equipment. The consideration here should be the existing equipment rated efficiency not a degraded performance.
- projects proposing "like-for-like" replacement of existing equipment are not authorized.

In response to the comment, an endnote (endnote 1) was added to the Background section indicating that "the baseline used for energy efficiency savings reporting and incentives shall not regress to a lower efficiency than the existing equipment". Also, a clarifying statement was added to the Background section to indicate this document explains the step by step baseline selection process, and does not discuss eligibility issues or the review and verification of the selected baseline.

**[outstanding comment]** One stakeholder disagreed with inclusion of "the review and verification of the selected baseline" in the clarifying statement and stated that there is no need to discuss review and verification of selected baseline, since it's already part of process. Suggested the removal of this part of the text.

### Section 2: Definition

*"The Standard Practice Baseline is an estimate of the activity or installation that ~~what~~ would take place absent the energy efficiency program as required by code, regulation, or law, or as expected to occur as standard practice.*

*The Standard Practice Baseline activity or installation must meet the anticipated functional, technical, and economic needs of the customer, building, or process and provide ~~while providing~~ a comparable level of service as comparable to the ~~EEfficient~~ measure. Savings claims shall be generated based ~~(reference decision on equipment choices that operate at a comparable level of service as the EE measure. If there is not a viable and comparable baseline solution that offers a comparable level of service as the EE~~*

*measure, the energy use of the baseline solution must be normalized to provide a comparable level of service as the EE measure. reach codes)*

#### Discussion Summary

##### ***On the use of terms “Anticipated Functional, Technical, and Economic Needs” and “Comparable Level of Service”***

Stakeholders stated that any proposed baseline must be commonly available in the marketplace and meet the anticipated technical, functional, and economic needs of the customer. In response to the comment, the phrase “anticipated functional, technical, and economic needs” was incorporated into the definition of the Standard Practice Baseline.

One stakeholder stated that comparable level of service should be defined for industrial processes. In response to the comment, the following statement was added to the Definition section:

*“Comparable level of service includes production increases that can be met with existing equipment/systems that will be replaced with more efficient equipment/systems.”*

This statement was later revised and combined with the preceding statement to the following based on the language in version 5 of EE Policy Manual:

*“The Standard Practice Baseline activity or installation must meet the anticipated functional and economic needs of the customer, building, or process while maintaining a comparable level of service as perceived by the customer”*

Later during the process, additional comments were received on the revised statement above indicating customer perception cannot override specifications for equipment capable of producing at X rate per hour with Y product characteristics. An example is computing and networking equipment that has basic specifications. How can customer perception that X terra flop operation of standard baseline equipment is comparable to Y terra flops operation of the installed equipment constitute equivalent functional needs? Also, the words “anticipated” and “maintaining” do not go together in a single sentence. When standard practice baseline represents a future state of operation, the original text worked better in which “providing a level of service comparable to the selected energy-efficient option”. In response to these comments, the “comparable level of service” statement was revised to the following:

*“The Standard Practice Baseline activity or installation must meet the anticipated functional, technical, and economic needs of the customer, building, or process and **provide** a comparable level of service **as the EE measure**”* with the addition of an endnote to address the cases when standard practice baseline represents a future state of operation:

Endnote: *“Savings claims shall be generated based on equipment choices that operate at a comparable level of service as the EE measure. If the EE measure provides **an enhanced level of service** (e.g. a new load project that allows for increased production), savings must be normalized to comparable levels of service.”*

Other stakeholders commented that the added endnote was not completely accurate with the following argument: the first sentence says that the baseline must provide comparable levels of service. If that’s the case, as it should be, then normalization for “an enhanced level of service” should not normally be needed. They suggested the following language:

*“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.”* In response to this comment, the author added this sentence to the Definition section:

*“If there is not a viable and comparable baseline solution that offers a comparable level of service as the EE measure, the energy use of the baseline solution must be normalized to provide a comparable level of service as the EE measure.”*

**[Outstanding Comment 1]** One stakeholder stated that the current criteria consider functional, technical, and economic needs of the customer, building, or process. It is not clear if this covers an ISP that could consist of a non-policy allowed option (e.g. that does not meet three prong test if fuel switching is an option). Perhaps this should be clarified to include “...that meets CPUC Policy requirements.”

#### ***On the use of the word “Economic”***

Other stakeholders asked to clarify “economic needs of the customer, building and process”, stating that the term economic is not specific enough. The implementation of an energy efficiency project is economic and the intent is not to prevent energy efficiency projects from being considered and implemented with incentives. In response to this comment, Endnote 3 was added to the document.

The author of the document argues that the phrase “economic needs” does not necessarily mean “the most economical option.” The Standard Practice Baseline must be an option that the customer considers economically reasonable. The baseline is supposed to represent what would happen in absence of the program.

Energy costs must be taken into consideration when assessing the customer’s feasible options. If an option is functionally and technically feasible, but the energy costs are so high that the customer would never consider it, then that option shall not be used as the Standard Practice Baseline. If an option has higher energy costs than an alternative but is still considered reasonable by the customer (e.g. due to familiarity with incumbent technologies), that option may be considered for the Standard Practice Baseline.

### **Section 3: Selection Process**

*“The following describes the process that a project developer must step through to determine the Standard Practice Baseline for a given measure. While the project developer must substantiate each step of this process, the PA and/or CPUC may corroborate any baseline selected through this process. Project developers are encouraged to collaborate with the PA on this selection process for larger projects.”*

### **Section 4: Selection Process – Step 1**

*“Consider **and apply** any applicable **and current** CPUC published Standard Practice **documents baseline assumptions** relevant to the anticipated functional, **technical, and economic** needs of the customer, building, or process. Such ~~The two current sources are CPUC approved ISP guidance documents, which may include ISP study reports, or DEER baseline values, or CPUC-issued memoranda or dispositions, will be publically available on a single website with a date of issuance and effective dates.~~ [ 3] If applicable baseline **information within these documents assumption** is found, **apply it and stop here. If applicable***

~~information is not found, review and follow the ISP Guidance Document. When appropriate, proceed to use that as the baseline. STOP.~~ Step 2.

[3]: ["For example, the CPUC Ex Ante Review Custom Process Guidance Documents page at: http://www.cpuc.ca.gov/General.aspx?id=4133"](http://www.cpuc.ca.gov/General.aspx?id=4133)

## Discussion Summary

### *Ongoing or Directed ISP Studies*

Stakeholders stated that in the case where there is an ongoing or directed ISP study related to the proposed project, it should be determined whether a low or high rigor Standard Practice study is required by guidance or is underway or has been directed by either the PA or CPUC staff. If such a requirement exists the study result determines the baseline for this project and all similar future projects 60 days after the date of the ISP or the direction to perform the study, whichever is sooner. In response to this comment the phrase "CPUC-issued memoranda" was added to include the possibility of ongoing or directed ISP relevant to the project.

Other stakeholders stated that the document does not clearly address when it makes sense to hold the project under ex ante review for an ISP study to be completed and when it makes sense to move to Step 2 of the Standard Practice Baseline selection process. In response to this comment, the following statements were added to the Step 1:

*"If applicable baseline information within these documents is found, apply it and stop here. If applicable information is not found, review and follow the ISP Guidance Document. When appropriate, proceed to Step 2".*

**[Outstanding Comment 2]** later during the process, other stakeholders raised the same issue stating that Step 1 and the term "when appropriate, proceed to Step 2" don't adequately define when it makes sense to hold a project for ISP determination. The document needs to explicitly state if an ISP study is underway or needed. They recommend the following revised text:

*"If a pre-established, published baseline is NOT identified, if an ISP study is NOT already underway, and the need for an ISP study has NOT been identified (following review and procedures outline in the ISP Guidance Document), then proceed to Step 2. Otherwise, the project must either apply the already established baseline guidance or await the result of the pending ISP study."*

**[Outstanding Comment 3]** other stakeholders disagreed and stated that the current language allows for pausing until market-based study is completed. Ongoing or directed ISP studies should be applicable to future projects and should not hold up projects in-flight. They suggested the removal of endnote 6 and the following revised text for proceeding to Step 2:

*"If applicable baseline information is not found, proceed to Step 2. [Need transition period language]"*

**[Outstanding Comment 4]** the use of "CPUC-issued memoranda or dispositions", which are typically not vetted full rigor studies, has generated timing and interpretation issues in the past as they are done inconsistently with the other guidance used to establish ISP studies. This not only creates inconsistency of ISP determination from project to project, but it also creates a goal inconsistency because the potential studies do not discount this informal level of rigor. CPUC memoranda and dispositions should

reflect adherence to the guidelines and published studies, but should not be used alone to introduce “ad hoc” ISP studies. Ideally, the goal setting process should be aligned with the outcome of this process to remove that inconsistency as well

**[Outstanding Comment 5]** suggested to change the phrase “ISP Study Reports” in “ISP study reports, DEER baseline values, or CPUC-issued memoranda or dispositions” to “ISP Determination” since we need objective determinations, not studies. Studies provide basis for determinations

#### ***Designated Website***

Stakeholders requested that any directed or ongoing ISP activity to be in writing and publicly available, so that the project developers have a repository to verify whether this situation applies. In response to this comment the following language was added to Step 1:

“Such documents, which may include ISP study reports, DEER baseline values, or CPUC-issued memoranda or dispositions, will be publicly available on a single website with a date of issuance and effective dates.” with addition of endnote 5 suggesting the use of CPUC Ex Ante Review Custom Process Guidance Documents page as a repository of all published ISP studies.

The author of the document explains that the project developers must review a designated website to see if any ISP guidance is available that might guide the project. If guidance is found, the developer follows the guidance and stops. The developer does not proceed to Steps 2 or 3 and does not identify any options associated with the customer’s decision making process.

The author expects guidance on this website to include all the followings:

- Market-based ISP study reports where a standard practice is determined
- CPUC dispositions determining a technology in a certain application to be standard practice
- CPUC memos notifying parties that a market-based ISP study is underway, and that related projects may not be approved until completion of said ISP study
- CPUC memos notifying parties that a market-based ISP study is underway, and that related projects may continue until completion of said ISP study

It is expected that Staff has full authority to author and post any document to this site.

The group recommended that each document appearing on this site have the following information associated with it:

- A definitive effective date (for example: June 30, 2017; not “60 days upon completion”)
- The date the document was uploaded
- The date a document is no longer effective (if applicable)

The author provided an illustrative example of how this recommendation should be implemented (note that dates are illustrative only):

- Uploaded April 1: CPUC memo A is posted, notifying parties that a market-based ISP study for X measure in both Y and Z types of buildings is underway. Projects involving X measure may not be approved after June 1 until completion of this study.

- Projects involving this measure may be approved up until June 1, but are on hold indefinitely after June 1.
- Uploaded September 1: Completed market-based ISP study is complete, determining that X measure is ISP in Y buildings, but is not ISP in Z buildings. Projects involving X measure in Y buildings may not be approved after November 1.
- Updated September 1: Memo A is amended to no longer be effective as of September 1.

The author versioned that having these dates will facilitate accurate and repeatable implementation of ISP guidance and suggested the group to design a process that ensures timely upload of these files.

## Section 5: Selection Process – Step 2

*~~“Identify the options presented by the project developer, or that Determine at least one viable option the customer considers functionally, technically, and economically feasible to implement, including any known options that are presently and commonly implemented. Options must comply has to meet the anticipated functional needs of the customer, building, or process while complying with all codes, standards, and or other requirements, with consideration for:~~*

*~~A. Applicable minimum building energy efficiency requirements, e.g. A. Any applicable federal, state, and local regulations or requirements that are relevant to the baseline activity / installation, and~~*

*~~B. Minimum requirements of California Building Energy Efficiency Standards (Title 24 – Part 6) or ASHRAE Standard 90.1 applicable to the baseline installation / activity, and~~*

*~~B. Other applicable federal, state, and local regulations or requirements, excluding reach codes e.g. Title 20, CARB Regulations, Federal Appliance Standards, and~~*

*~~C. Providing a comparable an equivalent level of service as the EE measure for the EUL of the EE measure.~~*

*~~Functional, technical, and economic feasibility is perceived and defined by the customer, but should take into account the need for performance and reliability, as well as any relevant operational, maintenance, and energy costs. The customer must consider any options considered under this step as reasonable to implement.~~*

## Discussion Summary

### Viable Options

One Stakeholder stated that it seems inappropriate to say that a single option can be identified irrespective of the actual available viable options. The suggested alternative language was to “Identify the commonly currently being installed viable options available to meet the anticipated technical, functional, and economic needs of the customer, building, or process while complying with all codes, standards, or other requirements or constraints of the customers’ project”. In response to this comment, the starting statement of Step 2 was changed from “Determine at least one viable option the customer must meet the anticipated functional needs of ...” to “Identify the options presented by the project developer, or that the customer considers functionally, technically, and economically feasible to implement, including any known options that are presently and commonly implemented.”



### **Performance and Reliability**

Regarding Option C, stakeholders commented that the equivalent level of service should include performance and reliability. In response to this comment, the following statement was added to Option C:

*“Functional, technical, and economic feasibility is perceived and defined by the customer, but should take into account the need for **performance and reliability**, as well as any **relevant operational, maintenance, and energy costs**. The customer must consider any options considered under this step as reasonable to implement”* with the addition of following endnote 8.

**[Outstanding Comment 6]** regarding “The customer must consider any options considered under this step as reasonable to implement”, what happens when ED second guesses customer judgement?

### **Section 6: Selection Process – Step 3**

*“If Step 2 yields only one ~~feasible option, that viable~~ option ~~establishes; that option defines~~ the standard practice baseline. In this case, the measure is ineligible for Normal Replacement, and there is no second baseline savings for Accelerated Replacement. [4] If Step 2 yields two or more ~~feasible/viable~~ options, the option that is the lowest first-year cost to implement ~~establishes/defines~~ the standard practice baseline.*

*Costs included in this process may be estimates, but their basis must be substantiated. Costs should include: “...the cost of any equipment or materials purchased, including sales tax and installation; any ongoing operation and maintenance costs; any removal costs (less salvage value); and the value of the customer's time in arranging for the installation of the measure, if significant.”*

[4] *“Standard Practice Manual, October 2001”*

#### **Discussion Summary:**

##### **Lowest First Year Cost Option**

One stakeholder stated that any proposed baseline is expected to be less costly than the proposed equipment, where costs must include full implementation costs as well as maintenance and operating costs for those projects where such costs are a key decision factor. The following revised language was suggested: *“Depending on the cost and type of the equipment alternative “maintain in operation” cost should be included. In residential projects this may either not be a consideration or the time may be very short, such as months or a year. In non-residential projects this may be an important consideration and may require one or several years of considered cost due to ongoing labor or maintenance costs. Also, in non-residential projects equipment that is a critical component of the customer’s operation where service interruption or down time is very costly, reliability of service and the cost of failure must be considered in the “maintain in operation” cost.”* In response to this comment, the **first year cost** was incorporated in Step 3 with addition of endnote 10.

**[Outstanding Comment 7]** regarding endnote 10, one stakeholder stated that the standard practice baseline is for anticipated operation and maintenance, not ongoing operation and maintenance. The process should allow a comparison of first costs or lifecycle costs that forms the basis of customer decision. The following revised language was suggested:

*“Energy efficiency options have always been required to use less energy and cost more than baseline options. **First or lifecycle costs used by the customer for decision-making** should include: “...the cost of*

any equipment or materials purchased, including sales tax and installation; ~~any ongoing anticipated~~ operation and maintenance costs; any removal costs (less salvage value); and the value of the customer's time in arranging for the installation of the measure, if significant,”

**[Outstanding Comment 8]** Other stakeholders stated that we assume step 2 is only relevant where ISP research is not undertaken (following review and procedures outlined in the ISP Guidance Document). That is, step 2 is when there is no applicable ISP guidance available and the project does not warrant ISP research, and the customer practices/options will be assessed against mandatory regulations to determine the baseline. Otherwise we **don't** endorse the step 3 selection of lowest first cost to establish baseline. Also, if it is clear that one of the customer practices considered is the typical practice for a given industry and application, then that would be the best feasible option to choose as baseline, NOT the lowest cost option.

Also, we disagree with Step 3 choosing the lowest first cost option to select the standard practice baseline. This goes against the market-based (most common) choice being the baseline. That's the definition of standard practice. Why are we reverting to lowest first cost?

**[PG&E's Response to the Use of Most Common Option]**

**1. Use case where Step 2 yields exactly two feasible options**

One of the two options will be the baseline, and the other option will be the measure. Any options considered in this process need to be real options.

*Example: A customer has to replace a mechanical unit, whose installation is governed by Title 24. However, physical constraints prevent the installation from satisfying Title 24 requirements; the customer has a letter from the authority having jurisdiction that such is true and has been exempted from those Title 24 requirements. In this case, the Title 24 minimally-compliant installation is NOT an eligible standard practice baseline. The baseline MUST be a real option that is reasonable to install for the customer, and it is impossible for this customer to exactly meet Title 24.*

*Example: A customer needs 75,000 MBTU of output. Suppose that a high efficiency 75,000 MBTU model exists, but the standard efficiency models are only manufactured with 50,000 and 100,000 MBTU sizes. The baseline should be a 100,000 MBTU model operating at 75% load, not a hypothetical 75,000 MBTU model with an efficiency rating interpolated between the two models. The baseline must be a real option that exists.*

**2. Use case where Step 2 yields exactly one feasible option**

The measure is ineligible for Normal Replacement (NR). NR measure type presumes that some replacement is necessary, whether it be because the equipment has failed (the Replace on Burnout use case), the customer's needs have changed (the New Load use case), or the equipment is naturally due to be replaced (the Normal Replacement use case). If replacement is necessary, and there is only one option that meets the need, then there is no decision point for the customer and therefore no reason to provide an incentive or claim any savings. The measure is ineligible.

However, if the project developer can successfully demonstrate that it is “more likely than not” that the existing equipment could AND would remain in service, then a preponderance of evidence has been provided and the measure can be eligible for Early Retirement (ER). ER claims assume that the existing

equipment would remain in operation through its RUL, and after that, the customer is compelled to conduct a replacement. At the RUL point, if only one option meets the need, there is again no decision point for the customer. No savings should be claimed for anything after the RUL point. Therefore, if POE has been provided, savings can only be claimed up to the RUL point.

This is stated in footnote 7, for cases where Step 2 yields only one viable option, NR claims are ineligible and ER claims shall have no second baseline savings.

### **3. Use case where Step 2 yields more than two feasible options [in response to outstanding comment 2]**

The author argues that one of these options will be the measure, that is the end state that the customer desires, and proposes the lowest first year cost option to be selected as the baseline between the remaining options.

In response to the comment that suggest using the most common choice (i.e. market based) as the standard practice baseline, rather than the lowest first cost, the author agrees that this is ideal; however, there is rarely an agreed upon most common choice. One party may survey some vendors and come to one conclusion; another party may survey some other vendors and come to a different conclusion. This also assumes that the installation is homogeneous enough that a relevant question can be posed to a valid sample of vendors, and that a relevant and conclusive study can be completed. Such studies are only cost-effective to carry out for measures that have multiple applications across many markets.

In cases where a large enough sample size of vendors can be surveyed and a conclusion on the most common choice can be determined, the author recommends that the process and results be documented and posted publicly for use in Step 1 of this process. Such research typically requires a decent amount of time to assemble and should be applied broadly. That way, the project developer finds and applies this baseline upfront and never gets to Steps 2 and 3 of exploring different customer options.

In their experience, parties rarely agree on a conclusion after vendors are surveyed. The purpose of the selection process is to provide an answer of how to select the baseline, regardless of whether the measure is eligible or not. PG&E's proposal always provides the project developer with an answer; this commenter's proposal does not. The author prefers the lowest first year cost method as it produces a counterfactual baseline that reviewers can more easily evaluate. This is especially preferred when the process in Step 1 provides a forum to specifically address situations where Step 3 would yield a non-ideal answer.

In Step 1, the CPUC still has ultimate authority over the ISP documents posted in the publicly available website. The CPUC may declare any technology as ISP or on hold until further notice, so long as it is posted on this website. As noted above, such documents will govern Step 1 of the process and prevent any projects from moving through to Steps 2 or 3. They think this provides the necessary CPUC oversight; if it suspects that a lowest cost option is not the standard practice, it may post a memo to the website as described above. CPUC ISP declarations are not required to be rooted in research, although stakeholders would hope that supporting documentation is provided.

For those reasons, the author disagrees with the suggestion to amend Step 3 to use the most common choice as the standard practice baseline and stand by our preference to use lowest first cost.

**[Outstanding Comment 9]**

First, we must consider the most recent CPUC Decision that addresses this issue, D.12-05-015, at 351: “For purposes of establishing a baseline for energy savings, we interpret the standard practice case as a choice that represents the typical equipment or commonly-used practice, not necessarily predominantly used practice. We understand that the range of common practices may vary depending on many industry- and/or region-specific factors and that, as with other parameters, experts may provide a range of opinions on the interpretation of evidence for standard practice choice. Here again, we expect Commission Staff to use its ex ante review process to establish guidelines on how to determine a standard practice baseline.”

The direction is typical equipment or commonly-used practice, but not necessarily a predominant choice. The last phrase (predominate) was added due to the recognition that if there are two or more choices there may be more than one choice that is common and in those cases, it may be appropriate to create a typical efficiency level for the standard practice that is a mix of efficiencies of the common choices weighted by their current selection (those currently or very recently making choices for installations or methods of operation) share. Commission staff has never used the cost as the (or sole) criteria. Certainly, cost figures into the selection process, but the proposers of using cost have provided no evidence that the lowest cost choice has any correlation to being the common or typical choice. Certainly when “first-year cost” is added as a qualifier to lowest cost, we start to get more into a customer decision process. But for major investment limiting the analysis to first year cost may not be useful as in many situation labor costs far exceed all other cost consideration. Thus, labor productivity enters into decision on choice strongly in some cases and is not limited to first year costs. Major acquisition analysis usually involves multi-year analysis including, financing options, cash flow analysis as well as tax implications, and resale. Also, future flexibility for the business is often important including expandability. For less costly technologies, there may be other attributes that far outweigh equipment cost, such as appearance, details of performance, fit with other components where the new equipment will be used.

In many cases when there are two or more alternative choices, we would consider using some type of weighted average efficiency as the baseline standard practice. Examples for simple equipment include the baselines for screw-in lamps where we currently use a mix of incandescent, compact fluorescent lamps, and LED lamps in the baseline. If there are choices that clearly have minor market share compared to the others, it is reasonable to consider leaving those choices out of the weighting. For example, of choice 1, 2 and 3 have 10%, 40% and 50% current orders market share it may be reasonable to not consider choice one and mix 2 and 3 together to get a middle point between their efficiencies as the baseline. In very small markets (# of annual purchases very small) this can still be reasonable. The implication of this example (3 reduced to 2) is that only one item can get incentives. If that item already has close to 50% of the new order market, there is a risk of very low net-to-gross since the incentives that can be offered cannot really change any decisions.

Also, when there are few viable choices, such as two or three with no clear typical choice, and no great performance, first or life cycle cost difference, it is questionable why there is incentive support at all. Often if there is a cost difference that is also commonly coupled with a performance (production), size,

or some other difference that cannot be ignored and simply take the first or first-year cost as the lowest. Manufacturers of equipment are not arbitrary in their pricing strategies, but they do need to recover development cost over time in their sales ... so amortize those costs over some level of sales then may be able to drop those costs a lot. Therefore, costing information must be current and baselines mix shifted as recent sales and orders change. We often see reports using out-of-date costs, thus another problem with that parameter being a major method of selecting baseline.

Bottom line, first cost, first-year cost, or other simple cost based methods are not very reliable unless there is clearly a case where the "lowest cost" item (however that is defined) also clearly has the largest current sales market share by a significant margin.

DRAFT