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PUBLIC UTILITIES COMMISSION

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Date: March 26, 2018

To: Southern California Edison (SCE)

From: Peter Lai, California Public Utilities Commission

Cc: R.12-01-005 and R.13-11-005 Service Lists

Subject: Final 2017 Efficiency Savings and Performance Incentive (ESPI) Ex Ante Review Performance Scores

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I. Summary of 2017 ESPI Scores- Custom Projects and Workpapers

The scores[1] contained in this memo are final, and Southern California Edison Company (SCE) shall use the total final ex ante review performance points from the table below together with the weighting[2] for each category to calculate the 2017 Efficiency Savings and Performance Incentive (ESPI) ex ante review component award. Breakdown of SCE's 2017 ESPI score of 60.14/100 for workpapers and custom projects are shown below in Table 1. SCE's 2017 total points improved over its 2016 total points of 44.62.

Table 1: 2017 ESPI Scoring for Workpapers and Custom Projects

SCE 2017 ESPI Ex-Ante Review Performance Scores and Points		Workpapers				Custom			
Metric	Metric Area of Scoring	2017 Score	Metric Weight Factor	2017 Points	Max Points	2017 Score	Metric Weight Factor	2017 Points	Max Points
1	Timing and Timeliness of Submittals	4.12	10%	4.12	5	5.00	10%	5.00	5
2	Content, Completeness, and Quality of Submittals	2.70	30%	8.10	15	3.59	30%	10.77	15
3	Proactive Initiative of Collaboration	1.53	10%	1.53	5	5.00	10%	5.00	5
4	Due Diligence and Quality Assurance/Quality Control Effectiveness	0.94	25%	2.35	12.5	3.23	25%	8.08	12.5
5	Responsiveness to Needs for Process and Program Improvements	1.80	25%	4.49	12.5	4.28	25%	10.70	12.5
Total				**20.59**	**50**			**39.55**	**50**

The metric scoring area descriptions are expanded in Attachment A. The final category scores are explained in more detail below as well as in Attachments B through D to this memo. As required by the ESPI decision, the relative weighting of the custom versus deemed portion of the performance component of the ESPI will be published by Commission staff in June 2018 after the utilities' final 2017 savings claims are filed.

The following sections of this memorandum provide a detailed description of the findings, including, areas of achievement, areas requiring improvement and scoring for both custom projects and workpapers.

II. Commission Staff Findings 2017 Ex Ante Activities

A. Custom Projects Review Overview

1. Summary of 2017 Achievements

SCE's custom project scores have improved compared to last year by 16.45 points from 23.10 in 2016 to

[1] Pursuant to Decision (D).13-09-023, D.15-10-028 and D16-08-019, Commission staff and consultants completed the 2017 Efficiency Savings and Performance Incentive (ESPI) mechanism ex ante review performance scoring as prescribed in Table 3 of D.16-08-019. D.16-08-019 established a consolidation of categories of metrics on which the utilities are evaluated and further directed in Ordering Paragraph 19 that the ESPI scores "shall be weighted for the utility program administrators based on the proportion of deemed savings and custom measures in each utility's portfolio".

[2] D16-08-019 Ordering Paragraph 19 specifies that "Energy Savings Performance Incentive scores shall be weighted for the utility program administrators based on the proportion of deemed savings and custom measures in each utility's portfolio." Therefore the final score cannot be determined until the utilities have submitted and Commission staff has compiled their final 2017 savings claims and published for each utility the weights for the custom and deemed categories.

39.55 in 2017. SCE continues to demonstrate efforts to improve its performance. Commission staff's observations include:

- The recent commitment of SCE's management as evidenced by its instructions to responsible parties on the importance of improving the performance of SCE's portfolio.
- SCE staff continues to collaborate, hold productive discussions to clarify various Commission staff guidance.
- SCE actively and constructively participated in the Track 2 Working Group (T2WG) activities. SCE took a leading role in developing Task 6 (streamlining) proposals.
- SCE has implemented an internal early custom project review process for projects pre-screening and technical review.
- SCE has implemented a "Custom Project Rule Book" to standardize program rules for both core and third party implemented programs.
- SCE has provided Commission staff an extensive list of activities that demonstrate its commitment to improve its quality assurance and quality control (QA/QC) processes. Some of the efforts listed to improve QA/QC include training for technical reviewers, engineers, implementers and program managers, custom project pipeline reviews, a "dashboard" to actively track custom project disposition issue feedback provided by Commission staff, and continued development of a Custom Project Rule book.
- Commission staff are aware that all four program administrators (PA) are collaborating to develop statewide standardized documentation and processes for custom projects. Commission staff applaud this effort and expect that it will result in improved statewide portfolio performance in the coming years.

2. Summary of Areas Requiring Improvement

Areas in need of improvement include similar concerns that Commission staff have highlighted in prior years.

- Systematic errors in a widely used statewide calculation tool.
- Inadequate calculation methodology and analysis approaches.
- Insufficient measurement and verification plans.
- Incomplete documentation in project submittals.
- Lack of evidence of program influence in project documentation.

In some cases, the total number of action items[3] identified in a specific issue area may seem low even though that issue area remains a significant concern and requires much improved action by SCE. For instance, as shown in Table 2, only a small percentage of the issues are associated with the "Issues Related to Net Impacts"; however these areas still require attention from SCE.

B. Deemed Workpapers Review Overview

1. Summary of 2017 Achievements

SCE continues to demonstrate efforts to improve its performance. Commission Staff's observations include:

[3] "Action items" are directives for corrective actions issued by Commission staff to the program administrators relative to the review of a particular custom project energy efficiency program application.

- SCE responded to the Phase 1 disposition for LED lighting including working with PG&E and Commission staff to address the primary concerns of the Phase 1 disposition.
- SCE provided timely submissions in many interactions with Commission staff. While there may be concerns with submission content as discussed below, Commission staff notes that SCE has shown improvement in submitting workpapers and disposition responses in a timely manner, especially for lighting workpapers.
- SCE worked with Commission Staff to develop revisions to the Database for Energy Efficient Resources (DEER) chiller measures.
- Commission staff are aware that all four PAs are now working together to collaboratively develop statewide standardized documentation and processes for several deemed measures / work papers. Commission staff applaud this effort and expect that it will result in improved Statewide portfolio performance in the coming years.

2. Summary of Areas of Improvement

The workpaper scores decreased slightly from last year by 0.93 point from 21.52 in 2016 to 20.59 in 2017. The top areas in which SCE needs improvement are listed below. While some of our concerns have been emphasized in prior years, such as updates for industry standard practice, Commission Staff is highlighting some new areas as well such as SCE's response to dispositions covering smart thermostats and swimming pool pumps. Commission Staff's concerns are described in more detail below and include:

1. Ignoring or responding in generalities to the technical direction within detailed reviews and dispositions. This concern is particularly important with respect to smart thermostat and upstream package HVAC measures.
2. Delaying work that responds to Phase 1 dispositions as the statewide lead PA, such as for swimming pool pump measures.
3. Producing flawed work as the statewide lead PA and failing to reach out to Commission Staff when disposition responses do not follow explicit direction included in dispositions.
4. Lack of proactive work on standard practice baselines, particularly for exterior lighting measures, which represent a significant portion of accomplishments.

V. Discussion

A. Custom Projects Ex Ante Review Discussion

Custom project energy efficiency program applications are reviewed by Commission staff. The review findings and directions to the program administrators are presented in documents referred to as dispositions. In early 2016, Commission staff revised the custom project ex ante review disposition template to include a categorization of the actions that staff requires the utility to address for the project under review. Table 2 summarizes the 108 action items identified across 22 dispositions issued between January 1, 2017 and December 31, 2017. The detailed action items for each project are included in Attachment B1.

Commission staff acknowledges that the projects were not selected at random. Our selections drew upon the type of projects that had issues in the past or where we expected to find deficiencies for various reasons. We also selected projects to determine whether the utility has corrected issues from similar project types that Commission staff reviews identified in the past.

Table 2: Summary of Categorized Action Items for Custom Projects

Issue Area	Action Category	Quantity of Issues Reviewed	Percent of Total
Issues Related to Gross Savings Impacts	Analysis Assumptions	8	7.4%
	Calculation Method	1	0.9%
	Calculation Tool	0	0.0%
	M&V Plan	11	10.2%
	Revise to Match CPUC Savings Estimate	1	0.9%
	Subtotals	**21**	**19.4%**
Process, Policy, Program Rules	Baseline	14	13.0%
	CPUC Policy	9	8.3%
	Did Not Follow Previous CPUC Guidance	3	2.8%
	Eligibility	10	9.3%
	ER Preponderance of Evidence	0	0.0%
	EUL/RUL	6	5.6%
	Fuel Switching		0.0%
	Incentive Calculation	6	5.6%
	Maintenance	2	1.9%
	Measure Cost	3	2.8%
	Measure Type	5	4.6%
	PA Program Rules	2	1.9%
	Repair	0	0.0%
	Self-Generation	3	2.8%
	Subtotals	**63**	**58.3%**
Documentation Issues	Inadequate Response to Precious EAR	0	0.0%
	Missing Documents	3	2.8%
	Missing Required Information	7	6.5%
	Project Scope Unclear	0	0.0%
	Subtotals	**10**	**9.3%**
Issues Related to Net Impacts	NTG	5	4.6%
	Program Influence	2	1.9%
	Subtotals	**7**	**6.5%**
Other Issues		**7**	**6.5%**
	Grand Total	**108**	**100.0%**

1. Issues Related to Gross Savings Impacts

In 2017 approximately 20% of issues identified (21 total actions) in custom project dispositions were related to gross savings impacts. Twelve (12) of the twenty two (22) dispositions issued in 2017 had comments associated with these issues. As highlighted in the 2016 ESPI memorandum, analysis assumptions and M&V plans continue to be an area of weakness that has a significant impact on the reliability of the ex ante savings estimates.

Not accounted for under the area "Issues Related to Gross Savings Impacts" is the Statewide issue related to the flaws in the EnergyPro™ analysis tool used for many Savings by Design projects.

Commission staff selected Savings by Design program projects for ex ante review from PG&E and SDG&E in 2017. It became evident that SCE and the Statewide team for this program had not reviewed this tool before using it in this program. When accepting analysis tools for use in estimating savings for custom projects more care must be taken to review the results provided by the tool and not rely on vendors or other agency's reviews to ensure the accuracy of the tool under the range of uses expected in the PA programs.

Not providing a complete and concise description of a calculation methodology and the inability to provide an accurate savings estimate also remain a weakness for many complex projects. SCE must undertake a long-term and ongoing effort to increase the technical skills of its project developers and Quality Assurance/Quality Control (QA/QC) reviewers to ensure that the ex ante savings estimates are accurate and reliable. In 2017, the following CPUC Project ID numbers had issues related to gross savings impacts: 0043, 0072, 0096, 0101, 0102, 0103, 0114, 0142, 0173, 0175, 159, and 160. Attachment B1, provides detailed description of the issues identified for each project.

2. Process, Policy, Program Rules

In 2017 approximately 60% of issues identified (63 total actions) in custom project dispositions were related to Process, Policy, or Program Rules. Eighteen (18) of the twenty two (22) dispositions issued in 2017 had comments associated with these issues. The actions were the result of a wide variety of issues ranging from non-compliance with Commission policy to eligibility issues to baseline issues. In 2017 the following CPUC project ID numbers had issues related to Process, Policy, or Program Rules: 0043, 0072, 0073, 0091, 0096, 0099, 0101, 0102, 0103, 0114, 0142, 0154, 0155, 0165, 0167, 0173, 0174, and 0175. Please refer to Attachment B1, for a detailed description of the issues identified for each project.

3. Documentation Issues

In 2017 nearly 10% of issues identified (10 total actions) in custom project dispositions were related to incomplete or insufficient project documentation. Eight (8) of the twenty two (22) dispositions issued in 2017 had comments associated with these issues. The actions were primarily the result of SCE not providing required information in documentation package submittals. Commission staff created a "Ready for Review" checklist in 2015, that SCE has been directed to complete when submitting project documentation packages for Commission staff selected projects. In some instances the checklist appears to be used on a "pro forma" basis, and although items are checked off, they are not actually provided. SCE needs to pay closer attention to the details when preparing project documentation packages. Missing information results in data requests and creates delays in completing project reviews. In 2017 the CPUC project ID numbers that had documentation issues include: 0072, 0091, 0096, 0100, 0114, 0165, 0167, and 0173. Please refer to Attachment B1, for a detailed description of the issues identified for each project.

4. Issues Related to Net Impacts

In 2017 6 % of issues identified (11 total actions) in custom project dispositions were related to net savings impacts. In 2017 nine (9) of the twenty two (22) dispositions issued had comments associated with these issues. The actions were primarily associated with a lack of documentation supporting program influence. As noted in the 2016 ESPI memo, issues related to program influence directly affect the scoring on ESPI Metrics 2, 4, and 5. SCE must make a more substantial effort to provide documentation that demonstrates what the customer was planning to do prior to the energy efficiency program intervened in the project. The documentation needs to demonstrate how the program enabled the customer to adopt an alternative action that improves final efficiency and provides incremental

savings benefits to ratepayers over what the customer was otherwise planning to implement.

Net impacts should be based on real and convincing evidence of program influence included in the documentation submitted for every project. The evidence of program influence should outweigh evidence that suggests the customer would have chosen the efficient alternative absent the program information or financial support. It is important that SCE make significant progress in reducing free ridership since as of January 1, 2018 all portfolio goals are based on net savings impacts. In 2017 the following CPUC project ID numbers had issues related to net savings impacts: X488, X525, 011, 138, 141, 145, 0151, 0157, and 0174. Please refer to Attachment B1, for a detailed description of the issues identified for each project.

5. Contracting issue- Third-Party Implementer Contract Structure:

The 2016 ESPI memorandum noted several issues with third party contracts including some projects that seemed to have unexpectedly large performance payment rates, a lack of meaningful third-party performance payment caps, and a contract structure based solely on first year claimed gross savings impacts with no consideration for net impacts. Pursuit of large performance payments can created an environment in which implementers maximize the ex ante savings estimates at the expense of compliance with Commission policy, appropriate and accurate assessment of program influence, measure eligibility or classification and savings impacts. The upcoming third party contract solicitation must address these issues.

6. Potential Reviewer-Program Implementer Conflicts of Interest Issue:

2015 and 2016 ESPI review memoranda expressed concern that some third-party implementer firms also perform technical review of program applications. Commission staff believes, and has expressed this several times to SCE staff, as well as to other PA staff, in meetings that a conflict of interest exists for several of SCE's technical review contractors that are also third-party implementers. While Commission staff understand that implementers do not in most cases review projects which their firm is also implementing, there is an inherent conflict related to being on the both the enforcement and user side of rules and policies that has contributed to the lack of progress on many of the issues discussed above. SCE has not informed Commission staff what actions have or will been taken to address and mitigate this problem.

B. Deemed Workpapers Ex Ante Review Discussion

SCE's deemed program continued at a similar pace to previous years. The deemed ex ante review included several Phase 1 workpapers which were included in dispositions published on March 1st, 2017. Additionally, two Phase 2 workpaper were reviewed. The comments below are organized by the 5 metric areas of scoring. The detailed scores for each metric are included in Attachment C.

1. Timeliness

SCE followed direction of the Phase 1 disposition for screw-in LED lamps and provided revised documents in a timely fashion. Furthermore SCE collaborated with PG&E, and Commission staff to identify differences in measure definitions between PG&E and SCE workpapers so that measure and cost data for each workpaper were properly represented in the ex ante database.

Another positive example of timeliness is the fluorescent LED tube replacements. Per 2016 direction,

SCE completed field research and revised calculations for an accelerated replacement measure that installs tube LED in place of operational fluorescent lamps. This work was completed per the agreed timeline and the ex-ante review team emphasizes that SCE's completion of this work provides valuable insight into existing conditions of currently installed linear fluorescent fixtures.

However, there is a lack of consistency across other programs. SCE should endeavor to provide timely responses for all Phase 1 disposed workpapers. SCE selectively followed direction on the Phase 1 disposition for Residential Variable Speed Swimming Pool Pumps. SCE did not update the VSD swimming pool pump workpaper for 2017; instead, they made changes for 2018. This is particularly concerning because SCE is a lead PA for this workpaper. Other PAs followed SCE's example and delayed their response to this disposition until late in 2017. As of March, 2018, none of the PAs has submitted a workpaper that follows the 2017 Phase 1 disposition, yet all PAs have reported claims. CPUC staff is now in the process of having to correct 2017 claims to reflect the Phase 1 disposition retroactively.

2. Content, Completeness, and Quality of Submissions

For several workpapers, SCE included adequate documentation so that Commission staff could complete preliminary and detailed reviews. Regarding the 2017 specific interactions, SCE is meeting expectations in some programs areas and is below expectations is others. Expectations were met within the lighting programs; workpaper submissions follow direction of the Phase 1 disposition. SCE collaborated with PG&E, the EAR team and Commission staff to identify differences in measure definitions between PG&E and SCE workpapers so that measure and cost data for each workpaper were properly represented in the ex-ante database.

SCE needs to improve technical review of measure definitions to confirm that assumptions are technically rigorous, reflect best available information, are transparent, and are adequately supported by the market where the technology will be applied. Commission staff is particularly concerned with continued use of the documentation covering the smart thermostat savings development, where savings are based on proprietary methods developed and proposed by a single product manufacturer. SCE did not follow Commission's 2016 direction to require the manufacturer to provide additional data that could be used to support the assumptions within the workpaper. Without this information, CPUC staff remains concerned that installations of smart thermostats may result in little, no, or even negative savings. Additionally, CPUC staff is concerned that the market is rapidly adopting this technology for both energy and non-energy benefits and that the influence toward adoption of incentives is small or nonexistent.

3. Proactive Initiative of Collaboration

Unfortunately, ex ante review team's feedback on the efficiency shareholder payment incentive (ESPI) metric is largely negative. This metric is only applicable to one of the SCE workpapers we reviewed in 2017; therefore, much of the score is based on work that has been on-going since before 2017.

SCE should reach out to Commission staff and consultant if our direction is unclear or when major shifts from the direction are anticipated. The revised Residential Variable Speed Swimming Pool Pump workpaper did not follow the directed standard practice baseline for multi-family building types because SCE stated that Title 24 allowed the inefficient single speed pool pumps to be installed. The energy code is unclear on this point and SCE should have reached out to Commission staff to coordinate and confirm this assumption before proceeding. Additionally, SCE submitted a revision that included down-stream delivery types for the commissioned pool pump measures; however, these were specifically

disallowed in the Phase 1 dispositio. If there are questions or confusion regarding the disposition direction, SCE should have collaborated with Commission staff to discuss these issues during 2017. Instead, Commission staff was made aware of them when we reviewed PG&E's workpaper that adopted the SCE's 2018 modifications.

Next, regarding SCE's research into standard practice baselines for food service equipment and exterior lighting, we acknowledge that SCE provided documentation showing that work has been done. However, SCE has been slow to start this research and have not produced any final research products to date. Direction for standard practice baseline was included in D.11-07-030 almost 7 years ago. Direction for LED lighting was included in a custom project review disposition published on February 2, 2017 that directed implementation of that industry standard practice into ex ante values and program activities by October 1, 2017. (See 0073-1 in Attachment A, below.) Furthermore, the DEER 2016 update directed that second baselines for all exterior lighting be updated to LEDs. Additionally, CPUC staff is concerned with SCE's general approach on most measures in assuming that the normal replacement and standard practice baselines are the least efficient technology, equipment or system allowed by the code. We do not believe this reflects the reality of the market, particularly with regard to peer-to-peer interactions that drive technology adoption absent utility incentives.

Furthermore, SCE needs to proactively address concerns raised by Commission staff with regard to internal program structures. Since 2015, Commission staff has directed SCE to develop processes and due diligence to properly identify contractor influenced accelerated replacements of package HVAC equipment. At the end of 2016, the Commission staff reviewed claims for package HVAC measures and compared them against SCE's own records for accelerated replacement measures and identified the following problems: 1) SCE's records submitted to the Commission staff review team showed much higher savings than what was shown in claims for 2016, and 2) there were many inconsistencies between the to-code and above code portions. For example, it was common for the building type, climate zone or unit capacity to be different for the to-code portion compared to the above-code portion. The Commission staff is not aware of any additional work carried out by SCE in 2017 to address these issues.

4. PA's Due Diligence, Quality Assurance, and Quality Control

Commission staff's feedback on this metric is largely negative. SCE should perform internal QA/QC prior to submitting workpapers for review. The changes SCE was directed to make as a result of the Phase 1 disposition for exterior LED lighting should have been caught by SCE's team and corrected prior to submission. These workpapers were developed by a consultant to SCE. Our disposition noted that the inconsistency when assuming lighting operating hours affected by motion sensors. Where the code required motion sensors, the workpaper assumed higher operating hours, increasing the claimed savings. Where the motion sensor were part of the measure (not required by code), the workpaper assumed significantly lower operating hours, again maximizing the claimed savings.

SCE did not appear to understand the results of their own research and findings for fluorescent tube replacements. As discussed above, SCE completed the Commission-directed research regarding an accelerated replacement measure originally proposed in 2016. Shortly after completion of this work, SCE requested to add normal replacement measure types using the same baseline, but moving to a 15 year measure life instead of the 5 years approved for the original measures. Commission staff rejected this request since normal replacement measures require a standard practice baseline while the workpaper was based on a typical existing baseline. We are pleased that SCE chose not to pursue this measure type based on our feedback. However, Commission staff is concerned that this type of misunderstanding of

requirements for different measure application types still exists within SCE.

Finally, SCE's market research in response to the Phase 1 disposition for Process Fan VFDs illustrated issues with SCE's internal QC process. In May 2017, SCE followed Commission direction and submitted information to support a market assessment and the workpaper measure savings calculations in accordance with the disposition. However, the submitted information failed to demonstrate that this technology is consistent enough to be considered a deemed measure. Commission staff is concerned that SCE's internal QC process is lacking with regard to both the market assessment (e.g. whether the measure was able to be applied to the type of fans applicable to this workpaper) and the energy savings calculation (e.g. whether the values assumed to apply to the measure were correct).

5. PA's Responsiveness

SCE is meeting expectations in program areas where Commission staff have been focusing significant efforts for multiple years such as the lighting program. For example, when the Commission staff observed inconsistencies in the forecasted data and values, SCE was responsive to preliminary review comments and were also able to resolve minor issues through the regular workpaper meetings. Additionally, Commission staff appreciates SCE's efforts to extend deemed forecast requirements for lighting to their custom programs.

Another positive note is that SCE worked with Commission staff to develop revisions to DEER chiller measures that reflected the availability of units and their respective full-load and part-load efficiency values. That said, SCE is still inclined to propose estimating savings above the worst performing, code minimum, units even if those units do not appear to be available in the market place. This appears to be exacerbated by the low effort to investigate program influence of high efficiency chillers; the only action we are aware of is SCE's survey of manufacturers' representatives who have a vested interest in obtaining utility incentives.

Finally, SCE struggled in 2017 to make proactive business decisions that reflect the rapid adoption of LED technologies in exterior lighting. Despite input and direction for both custom and deemed exterior lighting measures, SCE's response to this market shift remains inadequate. In the original 2017 Phase 1 screw-in LED disposition, Commission staff has directed the PAs to carry out an ISP study for exterior lighting. At this time, SCE has not proposed any updates to their baselines. This business decision is concerned when compared with PG&E, who proposed a revised baseline that is largely LEDs. Instead of following PG&E's lead, SCE noted in their 2018 workpaper plan that they would "carry over" 2017 exterior lighting workpapers into 2018.

VI. The Scoring Methodology

The 2017 ex ante review performance score was developed using a detailed scoring by metric for each directly reviewed work product (i.e., workpaper and custom project), as well as a scoring of the utility's internal due diligence processes QA/QC procedures and methods as well as program implementation enhancements to support improved ex ante values.

Attachment A summarizes the Metrics adopted in D.16-08-019 as well as the Commission staff developed scores and points for 2017. D.16-08-019 also directed that the custom and workpaper scoring be weighted together into a final score based on the PA total claims for custom and deemed activities, respectively. The weights for custom and deemed scores will be developed and published by

Commission staff in June 2018 based upon the PAs filed final 2017 savings claims to be filed on May 1, 2018.

In accordance with D.16-08-019, the utilities' ex ante activities are assessed against a set of five metrics on a rating scale of 1 to 5. Once activities are assessed, the ratings for each are converted onto this scale, where 1 is the lowest score assigned and 5 is the highest score assigned. A maximum score on all metrics for both workpapers and custom projects will yield 100 points whereas a minimum score on all metrics would yield 20 points. The 1-5 rating scale is distinguished as follows:

1. Consistent underperformer in meeting the basic expectations;
2. Makes a minimal effort to meet Commission expectations but needs dramatic improvement;
3. Makes effort to meet Commission expectations, however improvement is required;
4. Sometimes exceeds Commission expectations while some improvement is expected; and
5. Consistently exceeds Commission expectations.

As with the 2016 ex ante review performance scores, the final scores were "built-up" from a metric-by-metric assessment of each reviewed work product. It is Commission staff's expectation that this detailed scoring approach, along with the detailed qualitative workpaper and custom project level feedback, is consistent with the direction provided in D.16-08-019. We believe this scoring approach provides specific guidance to the utilities on how to improve their ex ante due diligence and scores moving forward.

A "Direct Work product Review" portion of each metric score was developed based upon the individual scoring of dispositions issued for custom project or workpapers. Each reviewed utility work product was first determined to have components either applicable or not applicable to a metric[4]. If not applicable to a metric that item was not used in the final score development for the metric.

For workpapers, if an item was determined to have activity applicable to a metric, the item was then assigned a qualitative rating as to the level of due diligence applied to the item as either deficient (or "-"), apparent but minimal (or "yes"), or superior (or "+"). Each of the ratings was then assigned a score percentage level of 0%, 50% and 100%, respectively. The assigned percentage scores were averaged across all the reviewed items. Individual workpaper level disposition scoring as well as related workpaper activities is provided in Attachment C.

For custom projects, each metric was directly scored using the rating scale described above in accordance with the maximum points allocated to the metric and the applicability of the metric to the work product reviewed by Commission staff. A project by project summary of the custom project scoring is included in Attachment B2.

The above process resulted in custom and workpaper work product review scores. Next, utility-specific review process "Review Process Score Enhancements" were developed for each applicable metric based

[4] For example, workpapers and custom projects which do not involve measures which in some way are expected to utilize DEER values, assumptions or methods, in the development of new kWh, kW and therm savings values would not receive scoring for metric 9 ("Professional care and expertise in the use and application of adopted DEER values and DEER methods"). Another example would be a minor workpaper or small custom project may not receive a score for metric 4 ("Efforts to bring high profile, high impact, or existing (with data gaps) projects and/or measures to Commission staff in the formative stage for collaboration or input ")

on observed policy and technical review or program implementation processes and procedures developed and under implementation in 2017 that are expected to positively impact future selected project reviews. Commission staff believes it is important to provide ESPI points for positive due diligence developments as recognition of the effort and continue encouragement even before a change in project-level results is observed.

In the custom scoring process Commission staff added points as "Enhancements" in the area of Policy/Technical QA/QC for each metric Metrics to reflect SCE technical review staff's positive efforts in these metric areas as discussed earlier. Those initiatives include policy compliance and early project development stage review procedures and processes, active training of staff and contractors, participation in the Track 2 Working Group, and coordination activities with the other utilities related to Statewide standardization of custom project processes and procedures. Although these efforts have not yet begun to be reflected into the dispositions scores Commission staff believes recognition of the efforts of SCE technical and policy review staff is warranted. SCE staff has described to Commission staff other planned additions to their early review activities to address recurring issues identified in previous ESPI memos and earlier in this memo. Commission staff believes these activities offer promise to improve the overall SCE ex ante performance, however, Commission staff must defer review those activities until later after implementation to assess if they warrant further augmentation of the SCE ex ante performance scoring for 2018 and beyond.

Commission staff has not observed similar efforts in the program implementation area and thus no "Review Process Score Enhancements" was assigned as an "Implementation Increase". The absence of such evidence of improvement on the program implementation side is disappointing and Commission staff urges SCE staff to take such actions as outlined earlier so as to allow further improvement in performance and scoring during 2018.

Workpaper scores are also comprised of the two components, "Direct Work product Review Score" and "Review Process Score Enhancements." Direct review items include workpaper dispositions, preliminary reviews, reviews of ex ante data submissions and direct interaction between Commission and PA staff on workpaper development issues. Process issues represent critical deemed measure development topics where Commission staff believes improvement is needed or improvement has occurred, but those activities are not necessarily reflected in the areas of direct review.

To produce final scores, the individual metric scores for the two workpaper contributing areas were added together, using a 50% weight for the process issues score. The 50% weight given to the process review has the effect of being a "score enhancement" or increase to the direct review score. Furthermore, within each contributing area (direct and process review areas), Commission staff also assigned weights for individual items as a way to reflect greater importance of different individual review items. The separate process scoring provides an avenue for assessing overall QA/QC processes and procedures put into place by SCE.[5]

[5] The guidance on scoring approach provided in D.13-09-023, at 74, provides that when only a small number of submissions are available for scoring and the submissions have varying impacts on the portfolio overall, that appropriate weighting should be allied to the submission and observed performance that should carry across multiple metrics. "Low scores for metrics that assess specific and important quantities (e.g., if the utility only uploads a small percentage of custom projects and receives a low score for Metric 1a), will have a proportional impact on the total score the utility could receive for later metrics that measure the quality of custom project submittals." "For example, doing an outstanding job on a large number of very low-impact, standardized projects will not make up for doing a poor job on a few projects that represent a major portion of portfolio dollars."

Attachment D contains custom and workpaper summary tables showing the components and total scores and points for each metric in each of the two component areas of scoring described above. For comparison, both the 2017 and 2016 scoring tables are included.

Questions or comments about the feedback or final scores should be directed to Peter Lai (peter.lai@cpuc.ca.gov). Note that pursuant to D.13-09-023, Commission staff scheduled April 13, 2018 with SCE staff to discuss this memorandum and the final scores.

Attachment A: Final ESPI Ex Ante Review Scores

Metric		Workpapers				Custom			
		Max Points	Max Percent of Total Points	2017 Score	2017 Points	Max Points	Max Percent of Total Points	2017 Score	2017 Points
1	**Timing and Timeliness of Submittals**	5	10%	4.12	4.12	5	10%	5.00	5.00
	Timely submittals: all lists, inventories, plans, studies, workpapers and project/measure documentation; timing and advanced announcement of submittals (spreading out submission when available rather than holding and turning in large batches); timely follow-up PA responses to review disposition action items including intention to submit/re-submit with proposed schedule.								
2	**Content, Completeness, and Quality of Submittals**	15	30%	2.70	8.10	15	30%	3.59	10.77
	Completeness, appropriateness, comprehensiveness, accuracy, and clarity of submittals. Submittal adherence to Commission policies, Decisions, and prior Commission staff dispositions and/or guidance. Do the submittals include all materials required to support the submittal proposed values, methods and results. Is the project or measure clearly articulated? Are proposed or utilized methods clearly explained including step-by-step method or procedure descriptions. Will the proposed or utilized approach provide accurate results. Are all relevant related or past activities and submittals appropriately noted or disclosed, analyzed or discussed. Are the pros/cons of alternate possible approaches or conclusions discussed to support that the chosen one is most appropriate.								
3	**Proactive Initiative of Collaboration**	5	10%	1.53	1.53	5	10%	5.00	5.00
	PA efforts to bring either measures, projects, studies, questions, and/or savings calculation methods and tools to Commission staff for discussion in the early formative stages, before CPUC staff review selection. In the case of tools, before widespread use in the programs. Commission staff expects collaboration among the PAs to develop common or coordinated submissions and for the PAs to undertake joint or coordinated planning activities and study work. The PAs are expected to engage with CPUC staff in early discussions on unique or high profile, high impact measures or projects before program or customer commitments are								

	made. The PAs are expected to engage with CPUC staff on planning and execution of studies that support proposed offerings, tools, or determination of proposed baselines or other programmatic assumption that can impact ex ante values to be utilized.								
4	**Program Administrator's Due Diligence and Quality Assurance/Quality Control Effectiveness** Commission staff expects the PA to have effective Quality Control (QC) and Quality Assurance (QA) processes for their programs and measures. The PAs are expected to have a pro-active approach to reviewing existing measure and project assumptions, methods and values and updating those to take into account changes in market offerings, standard practice, updates to DEER methods and assumptions, changes to codes, standards and regulations, and other factors that warrant such updates. The depth and correctness of the PA's technical review of their ex ante parameters and values, for both Core, Local Government and Third Party programs, are included under this metric. The depth and correctness of the PA's technical review of their own staff and subcontractor work related to supporting deemed and custom measure and project submissions are included in this metric. Evidence of review activities is expected to be visible in submissions so that Commission staff can evaluate the effectiveness of the PA internal QA/QC processes.	12.5	25%	0.94	2.35	12.5	25%	3.23	8.08
5	**Program Administrator's Responsiveness to Needs for Process and Program Improvements** This metric reflects the PAs ongoing efforts to improve their internal processes and procedures resulting in increased ex post evaluated gross and net savings impacts. Commission staff looks not only to the PA's internal QC/QA processes, but also whether individual programs and their supporting activities incorporate and comply with CPUC policies and prior Commission staff disposition guidance in their program rules, policies, procedures and reporting. This includes changes to program rules, offerings and internal operations and processes required to improve overall review and evaluation results. A particularly important area for focus is the improvement of net portfolio performance via the removal of measures and or participation with low program attribution (NTG).	12.5	25%	1.80	4.49	12.5	25%	4.28	10.70
Total		**50**	**100%**		**20.59**	**50**	**100%**		**39.55**

Attachment B1 Custom Project Action Items and Notes

Ref	Action Number:	Summary of CPUC Staff Required Action by the PA:	Action Category
0073-1	**1**	Commission staff believes the use of LED lighting is industry standard practice (ISP) for parking lot retrofits such as this project and likely also for other exterior and interior lighting retrofits. The Commission directed in Commission Decision (D.) 12-05-015 that the PAs consider when ISP is different than a code or regulation and thus ISP should be used in place of the code or regulation as the baseline. Specifically, OP 151 from D. 12-05-015: 151. Commission Staff shall, with input from Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas & Electric Company, Southern California Gas Company, and other parties, develop recommendations on: a. Whether it is appropriate to replace the regulation, code, or standard baseline with a typical installation baseline for use in calculating energy savings; b. Under what circumstances and based upon what kind of evidence such a change could be made; c. If the change to a typical installation baseline is made, how the baseline parameters should be established for use in setting ex ante values; and d. Assuming the above change, what are the time and budget implications for both Commission Staff and utilities for both ex ante and ex post savings development. For exterior lighting projects, the PAs (or SCE individually) shall, within 2 weeks of the date of the posting of this EAR document, enumerate the situations where ISP is likely an LED technology and thus significantly different from current code or regulation requirements. After the preliminary enumeration the PAs (or SCE individually) shall proceed to immediately work collaboratively with CS to develop an ISP technology assignment appropriate for identified measures to be used in place of the code or regulation as the baseline for ROB/NR/NC/CE and the second period baseline for ER. The baseline ISP review shall also be undertaken for interior lighting in situations where there is strong evidence from ongoing market research information or activities, that ISP would likely be LED technologies rather than existing code assumptions such as for high bay or general interior area lighting applications. Based upon the results of the preliminary ISP review, the PAs (or SCE individually) shall target the development of an ISP assignment appropriate for identified exterior and interior measures by June 1, 2017 and implementation of that ISP into ex ante values and program activities by October 1, 2017.	Baseline

0165-1	**1**	The maximum allowed EUL per CPUC policy is 20 years. The PA will assign a 20 year EUL value to EEM1 (the PA supplemental technical review document assigned a 30 year EUL value to EEM1 without adequate supporting documentation) and determine a final project level average EUL that is weighted by the individual measure energy savings determined using the post-implementation verified energy savings.	EUL/RUL
0165-1	**2**	CPUC Staff requires that the PA disclose and document both the technical reviewer's name and firm affiliation. The PA shall include the required information in the final IR stage Technical Review document.	Missing required information
0165-1	**3**	The PA's technical review does not summarize the individual measure impacts, IMC, and proposed incentives. The PA shall include in the final IR stage Technical Review a detailed summary of the individual measure impacts, IMC, and estimated incentives that add up to the overall project values. In addition, the technical review shall explain explicitly how each measure exceeds the 2013 Title 24 requirements for refrigerated warehouses.	Missing required information
0099-1	**1**	CPUC Staff finds that both Measure 1, CAV to VAV Conversion, and Measure 2, Replace Pneumatic Controls with DDC, are not REA measure types. The dispositions issued to the PA regarding Pneumatic Controls to DDC replacements for Application ID 050039380 (X370) should have been followed. Hence, the PA did not follow prior CPUC Staff guidance for this project application. The PA shall re-classify both measures as a Normal Replacement (NR) measure types, establish technical baselines using Title 24 requirements for both measures, revise the measure EUL values, determine incremental measure costs (IMC), and revise the estimated financial incentives accordingly.	Did not follow previous CPUC guidance
0099-1	**2**	CPUC Staff find that the PA's Technical Review for Measure 2 in regards to the 2013 Title 24 requirements is incomplete. Since the proposed measure replaces the existing controls, not only is the static pressure reset measure a mandated requirement, but the supply temperature resets measures are as well (2013 Title 24 Sections 140.4 and 141). Also, the proposed measure entails the replacement of thermostats. The thermostat replacements are like-for-like replacements and ineligible. In addition, Section 120.2 of the 2013 Title 24 requirements must be considered part of the technical baseline, in particular the requirements for HVAC equipment shut-offs and setbacks during unoccupied time periods.	Baseline

0099-1	**3**	On 12/13/2016, CPUC Staff posted the following CMPA Message in the CMPA Data Request folder: "*When CPUC Staff selected Application 500838126 for Ex Ante Review, SCE had indicated in the 6/6/2016 CMPA List that this project was not receiving Prop 39 funding. CPUC Staff finds in the 2016-2017 Prop 39 Budget allocations for community colleges that this customer is slated to receive funding that nearly match the full project cost for this application. CPUC Staff requires SCE to confirm whether the project is allocated Prop 39 funding.*" CPUC Staff posted in the same folder a copy of the 2016-17 Prop 39 Budget Allocations. The PA initial reply through a CMPA Message on 12/19/2016 stated that the project was Prop 39 funded. On 12/20/2016, the PA posted two follow-up replies, one retracting their statement that the project was Prop 39 funded and a further reply indicating that the PA is not re-evaluating the project's eligibility for an Energy Efficiency claim. CPUC Staff finds that the PA did not provide any documentation identifying what projects the highlighted allocated Prop 39 funds represent for this community college customer. CPUC Staff requires that the PA provide specific documentation detailing what projects the allocated Prop 39 funding is covering for this customer and the specific measures.	CPUC Policy
0091-1	**1**	This measure (electric submersible pumps installed at oil production facilities) is ineligible for ratepayer funded incentives. The PA must reject this measure.	Eligibility
0091-1	**2**	Past CPUC EM&V interactions with customers in this industry has revealed that customers replace a significant percentage of pumps after failure. In order to maintain the production level and facility operations, pumps of various capacities are kept in inventory so that failed equipment can be quickly replaced. The applications presented by the IOU seem to fall in the category of stocking replacement inventory, since the IOU is not able to identify exactly which pumps are proposed to be replaced by this project and only states that "those with the lowest efficiency will be replaced". CPUC Staff do not find any evidence that providing ratepayer funding for this activity has a meaningful effect on the customer's decision processes. CPUC Staff find little evidence of program influence and the NTGR for this measure must be set to zero.	NTG
0091-1	**3**	The PA must provide a list to CPUC Staff of all applications for this measure (new technology, improved performance electric submersible pumps at oil production facilities) which have been approved, including the date of their approval and the date the applications was placed on the bi-monthly CMPA list and shown as "Ready for Review."	Missing required information
0091-1	**2**	Past ex post evaluations have determined that the previous pump models which have been incentivized by the IOU have been installed by the customers in this industry for many years were standard practice, resulting in zero gross savings impacts. It appears that the customer is in the process of changing their standard practice to the latest generation of submersible pumps from the same manufacturer.	Baseline
0091-1	**3**	CPUC Staff note that this measure (replacement of electric submersible pumps) has been claimed repeatedly over many years for the same customers. Using ratepayer funding for these routine maintenance practices does not provide net incremental benefits to the ratepayers.	Maintenance

0091-1	**4**	CPUC Staff note that the PA has exempted this project from the State wide program rule (Section 1.5, Item 2. Qualifying Energy Efficiency Measures) which requires that measures have an effective useful life of greater than 5 years: "**2. Must Operate at Least Five Years.** The Project Agreement requires that the new equipment or system retrofit must provide energy savings for a minimum of five years. Measures with an effective useful life of less than five years are generally ineligible; Utility Administrators may allow selected measures with a EUL of less than 5 years at their discretion. Retrofit Add-on projects consider the effective useful life of the host equipment as well as the add-on equipment." The EUL for this measure has been set at 3.5 years by the ex post evaluation team. CPUC Staff can find no reasonable justification for the PA exempting this measure from the prudent State wide five year savings persistence requirements given the fact that lack of net lifetime incremental benefits to the ratepayers for many previously supported project and or this proposed normal customer upgrade in their practices. Additionally, the simple payback for the customer undertaking this update to their maintenance practices is less than one year without any program incentives.	PA program rules
0091-1	**5**	CPUC Staff note that based on the information provided by the PA, the simple payback for this measure is expected to be less than one year before incentive. It is unclear what role ratepayer funded incentives have for this measure.	Program influence
0091-1	**6**	Limited demonstration of the impacts of a new technology (if the improved pump performance is in fact based on new technology) which has not yet gained market acceptance and also has market barriers that are preventing adoption is more appropriately funded through "emerging technology" programs and not funded through ongoing ratepayer supported energy efficiency programs. In this case CPUC staff does not see that a case for market barriers preventing market adoption is evident to even justify ET support, but is open to review such evidence.	CPUC Policy
0091-1	**7**	CPUC Staff finds that the proposed total incentives exceed the total reported IMC. This deficiency was identified by CPUC Staff in the first review of this project and has not been corrected primarily because the PA did not upload corrected documentation for application number 500823339 in its second submission for this project. CPUC Staff finds that paying either 100% or more of the IMC for a measure that already has a short simple payback period and that has a EUL of less than 5 years is inappropriate and lacking any reasonable PA supporting justification as required by EE policy.	CPUC Policy
0101-1	**1**	CPUC Staff finds that the assigned EUL values for the following measures are incorrect and shall be corrected as follows: (1) Measure 1 and 2 shall be set to 5 years (REA measure types are the lesser of the measure EUL or the RUL of the host equipment using the default one third of the DEER EUL). Note that the 3rd Party PFS had correctly set the EUL to 5 years and the PA's Technical Review incorrectly set it to 15 years; (2) Measure 3 shall be set to 5 years since the host equipment for the control strategy is the existing EMS and not the existing chillers. (3) Measure 5 is an NR measure type and the eligible added functionality above code is the occupancy sensor control which has an 8 year DEER EUL value. The PA shall set the EUL for Measure 5 to 8 years.	EUL/RUL

0101-1	**2**	CPUC Staff finds that the assigned measure type for Measure 5, HVAC Zone Controls, i.e. Wireless Thermostats with Occupancy Sensors, is incorrect. CPUC Staff concludes that this is a replacement of the existing thermostats and is a Normal Replacement (NR) measure type. The PA shall revise the assigned measure type to NR.	Measure type
0101-1	**3**	CPUC staff finds that the designation of Measure 5 as HVAC Zone Controls is misleading. The measure entails the like-for-like replacements of existing zone thermostats. The only functionality that exceeds baseline are the addition of occupancy sensor controls. The PA shall reduce the eligible equipment for this measure to the occupancy sensor controls only.	Eligibility
0101-1	**4**	CPUC Staff requires that the impacts for Measure 5, HVAC Zone Controls, reflect only savings during the occupied hours only. Title 24 code requirements mandate HVAC system shut-offs and setbacks during unoccupied hours and therefore the addition of occupancy sensor controls to the zone thermostats only satisfy the code requirements during any non-occupied hours. Reference Note 2 below regarding Title 24 requirements for hospitals and medical office buildings. The PA shall reduce the estimated impacts for Measure 5 to reflect a Title 24 code technical baseline.	Baseline
0101-1	**5**	CPUC Staff finds that Measure 5 is a NR measure type and therefore requires an incremental measure cost to cap the financial incentives. The PA will use only allowable equipment costs in the determination of the IMC value, i.e. the increased functionality due to occupancy sensor controls. All other functionality represent like-for-like replacements and are ineligible.	Measure cost
0101-1	**6**	For Measure 7, CPUC Staff examined work paper PGECOLTG151, Revision 6, "LED Outdoor Street and Area Lighting." CPUC Staff finds that it does not use the ISP baseline that Staff has required in prior guidance. CPUC Staff requires the PA to revise the baseline to a lumen equivalent, code compliant PSMH.	Baseline
0101-1	**2**	Hospitals and medical office buildings in particular are not excepted from Title 24 requirements. The enforcement agency for hospitals is OSPHD but that does not mean that Title 24 requirements do not apply. Medical Office Buildings are not hospitals fall under the CEC enforcement jurisdiction.	Analysis assumptions
0101-1	**3**	The PFS states that the customer generally implements projects with simple paybacks of less than 3 years. The PFS states that this project has a simple payback of 2.4 years without incentives and a 1.7 year simple payback with incentives. In addition, several of the proposed measures have immediate paybacks. CPUC Staff believes that although there are significant indications of free-ridership in this project, it is likely not a complete zero net savings.	NTG
0102-1	**1**	CPUC Staff finds that the assigned EUL values for the following two measures are incorrect and shall be corrected as follows: (1) Measure 4 shall be set to 5 years (REA measure types are the lesser of the measure EUL or the RUL of the host equipment using the default one third of the DEER EUL). Note that the 3rd Party PFS had correctly set the EUL to 5 years and the PA's Technical Review incorrectly set it to 8 years; (2) Measure 7 is an ROB/ NR measure type and the eligible added functionality above code is the occupancy sensor control which has an 8 year DEER EUL value. The PA shall set the EUL for Measure 7 to 8 years.	EUL/RUL

0102-1	**2**	CPUC staff finds that the designation of Measure 7 as HVAC Zone Controls is misleading. The measure entails the like-for-like replacements of existing zone thermostats. The only functionality that exceeds baseline is the addition of occupancy sensor controls. The PA shall reduce the eligible equipment for this measure to the occupancy sensor controls only.	Eligibility
0102-1	**3**	CPUC Staff requires that the impacts for Measure 7, HVAC Zone Controls, reflect only savings during the occupied hours only. Title 24 code requirements mandate HVAC system shut-offs and setbacks during unoccupied hours and therefore the addition of occupancy sensor controls to the zone thermostats only satisfy the code requirements during any non-occupied hours. Reference Note 2 below regarding Title 24 requirements for hospitals and medical office buildings. The PA shall reduce the estimated impacts for Measure 7 to reflect a Title 24 code technical baseline.	Baseline
0102-1	**4**	CPUC Staff finds that Measure 7 as an ROB/NR measure type requires an incremental measure cost be used to cap the financial incentives. The PA will use only allowable equipment costs in the determination of the IMC value, i.e. the increased functionality due to occupancy sensor controls. All other functionality represent like-for-like replacements and are ineligible.	Measure cost
0102-1	**5**	For Measures 5 and 6, Industry Standard Practice (ISP) baselines are required. The PA indicated that they used baselines as found in PG&E's work paper PGECOLTG151, R4, "LED Outdoor Street and Area Lighting." CPUC Staff examined the current version of this work paper, R6, and finds that for HID luminaires, nominally rated 150W or greater, it does not specify code compliant, lumen equivalent Pulse Start Metal Halides (PSMH) as the baselines for ROB/NR measure types. CPUC Staff requires that the PA follow prior Staff guidance and revise the baseline wattages to code compliant, lumen equivalent PSMH for all existing fixtures with nominal wattages of 150W or greater.	Baseline
0102-1	**6**	CPUC Staff finds that this hospital site has a significant amount of on-site generation, solar photovoltaic and natural gas fired cogeneration, and the PA did not submit an hourly net electric grid impact analysis. The statement in the PA's Technical Review that the "...on-site generation does not exceed the total savings claimed by the application..." is inadequate since the analysis must demonstrate the eligible impacts on an hourly basis and not as totals. The PA shall submit an hourly net grid impact analysis that reflects not only the proposed savings for this project, but also includes all other proposed and implemented energy efficiency projects that coincide with the same time period of the grid purchases used in the comparison.	Self generation
0102-1	**2**	Hospitals and medical office buildings in particular are not exempted from Title 24 requirements. The enforcement agency for hospitals is OSPHD but that does not mean that Title 24 requirements do not apply. Medical Office Buildings are not hospitals and fall under the CEC enforcement jurisdiction.	Analysis assumptions
0102-1	**3**	The PFS states that the customer generally implements projects with simple paybacks of less than 3 years. The PFS states that this project has a simple payback of 2.4 years without incentives and a 1.7 year simple payback with incentives. In addition, one of the proposed measures has an immediate payback. CPUC Staff believes that although there are significant indications of free-ridership in this project, it is likely not a complete zero net savings.	NTG

0103-1	**1**	CPUC Staff finds that the assigned EUL values for the REA measure types are incorrect and shall be corrected as follows in accordance with prior staff guidance: (1) Measure 1, Chiller Plant Optimization, EUL shall be set to 5 years. (2) Measure 2, VFDs on CHW pumps, EUL shall be set to 5 years. (3) Measure 3, VFDs on CW pumps, EUL shall be set to 5 years. CPUC staff observes that the 3P PFS report listed acceptable EUL values for the REA measure types and the PA's technical reviewer approved incorrect values. The PA must ensure that their technical reviewers follow prior CPUC staff guidance. In addition, CPUC Staff is concerned that there may be an ongoing systematic EUL error for all prescriptive rebates using the REA measure type classification. The PA shall ensure that all prescriptive measures that are classified as REA measure types follow CPUC staff guidance and retroactively correct all instances before filing final claims.	EUL/RUL
0103-1	**2**	CPUC Staff finds that the 3P implementer's statement regarding the power supplied to the facility by an offsite cogeneration facility inadequate. An hourly net electric grid impact analysis is required. The PA shall undertake and submit an hourly net electric grid impact analysis for this project using up-to-date power purchases at the post-M&V stage. The impacts of all energy efficiency impacts implemented at the site during the same time period as the grid purchases shall be included in the analysis as well as the impacts from this particular project.	Self generation
0103-1	**3**	CPUC staff observes that the custom calculations did not use the CZ2010 weather data set for CZ09. The PA shall use the CZ2010 weather data set for the final post-M&V savings true-up.	Analysis assumptions
0103-1	**4**	CPUC staff finds that as part of the chiller plant optimization measure, the existing chiller controls will be replaced. This portion of the measure is a Normal Replacement measure type and a like-for-like replacement. The PA shall adjust the allowed measure cost for Measure 1, Variable Speed Chiller Plant Optimization, to include only the work undertaken to implement the new optimal chiller plant control strategy and revise the proposed incentives accordingly.	Measure cost
0103-1	**5**	CPUC staff observed anomalous data readings in the trend data spreadsheet tab for the chiller plant optimization measure calculations. Removing the anomalous readings had a minor effect on the proposed energy savings. The PA shall ensure that collected M&V data is checked and cleansed of errors prior to its use to determine the post-M&V trued-up impacts.	M&V plan

0114-1	**1**	The PA indicated in their technical review that a 250W HPS fixture was used as the ISP baseline taken from PG&E's work paper PGECOLTG151, "LED Outdoor Street and Area Lighting." The submitted lighting calculations used 250 Watts as the baseline which is the fixture power draw for a 200W HPS. CPUC Staff examined the current version of the PG&E work paper, R6, and finds that it does not use follow prior Staff guidance. CPUC Staff requires the PA to revise the baseline to a code compliant, lumen equivalent PSMH.	Baseline
0114-1	**2**	CPUC Staff requests that the PA submit the spec sheet for the proposed LED lighting fixtures and integrated motion sensor control, and provide the basis for the 35% motion sensor factor used in the savings calculations.	Analysis assumptions
0114-1	**3**	CPUC Staff finds that for Measures 4 and 7 above, replacing the existing programmable thermostats with wireless thermostats, are ineligible like-for-like replacements. Only the functionality that exceeds code requirements are eligible measures. The PA shall revise these measures to reflect only the eligible costs and savings that exceed code requirements. For example, SAT and Static Pressure resets are code requirements as well as zone temperature deadbands.	Eligibility
0114-1	**4**	For Measure 8, adding VFDs to the CHW pumps, CPUC Staff found statements in the PA's technical review indicating that the site inspection found VFDs on the chilled water pumps. However, there were no photographs of the VFD units for the CHW pumps in the documentation. CPUC Staff requests that the PA clarify whether or not there are VFDs already installed on the CHW pumps and revise the measure accordingly.	Eligibility
0114-1	**5**	Among the submitted photographs, there some labeled as "Heat Pump..." but what is shown in each photograph appear to be fairly old circulating pumps. CPUC Staff suspects that these are the circulating pumps for the building's space heating systems and requests that the PA clarify what was actually found during the site inspection for this project and reflect it in the final documentation.	Missing required information
0114-1	**6**	CPUC Staff finds that the heating systems for the building are not described and yet there are estimated natural gas therms impacts. The PA will supplement the documentation with a complete description of the building space heating systems and key operational parameters.	Missing required information
0114-1	**7**	The PA's technical review indicates in the "Site Inspection" spreadsheet tab that the customer is planning to replace the chillers in the next 18 to 24 months. CPUC Staff believes that some of the proposed measures EUL values would be impacted if indeed the customer replaces the existing chillers within that timeframe, i.e., the CHW pumps VFDs, Optimal Cooling Tower Operation, etc. CPUC Staff requests that the PA determine whether these plans are firm and adjust impacted measure EUL values accordingly.	EUL/RUL
0114-1	**8**	CPUC Staff finds that the PA analysis used TMY weather data to determine the ex ante impacts for the HVAC measures. While the use of local weather data that match the timeframe of collected trend data is appropriate for regression data analysis, the impacts must be normalized to the CZ2010 weather dataset for the corresponding climatic zone. The PA shall normalize the trued-up post-M&V HVAC impacts to the CZ2010 weather data for Climate Zone 10.	Analysis assumptions

0114-1	**2**	In the PA's Technical Review workbook, "Project Summary" spreadsheet tab, the narrative indicates that the customer is enrolled in the Demand Response program. However, elsewhere throughout the individual measure reviews, the reviewer says that the customer is not enrolled in Demand Response. This and other contradictory statements found in the technical review indicates to CPUC Staff that better QC checking by the PA's own staff of its contract reviewers is needed since the contractor's QC technical reviewer failed to correct the contradictions.	Technical Reviews
0154-1	**1**	CPUC Staff found that the submitted incentive calculation workbook zeroed out the impact of the negative impacts of Measure 2 to maximize the estimated incentives. CPUC Staff finds this practice unacceptable and requires that the PA correct the incentive calculation formulas and resubmit corrected estimated incentives that reflect the findings from this disposition. In addition, the PA will ensure that alterations to the incentive calculation formulas do not happen without explicit authorization and justification. The PA shall include checking and reporting the estimated incentive amounts as part of their technical reviews effective immediately.	Incentive calculation
0154-1	**2**	CPUC Staff examination of the submitted eQuest modeling found the following deficiencies: (1) The simulation year was set to 2015 and should be set to 2009 to properly align the calendar days for the DEER peak period. (2) Since two out of the eight condenser fans for the air-cooled chillers have VFD controls, the eQuest model should use performance curves that are specific to the installed chiller equipment. The PA shall correct the above deficiencies in the modeling and re-submit the estimated impacts.	Baseline
0154-1	**3**	The submitted photographs of the telecom rooms are not clear as to the location of both the supply and return air in respect to the thermostatic controls and the equipment racks. It is unclear for some rooms whether any of the existing supply air is either through an underfloor plenum, ducted to the equipment racks, or supplied directly into the general space. The PA needs to better describe the existing air distribution systems in each room. A schematic diagram of the layouts may best describe the conditions. From the current submitted documentation, CPUC Staff surmises that the proposed changes to the air distribution system in each telecom equipment room are permanent, irreversible changes. As such, they do not qualify as a Retrofit Add-on (REA) measure type. The PA did not provide any documentation to support an Early Replacement (ER) measure type for this project. Therefore, CPUC Staff finds that Measure 1 is a Normal Replacement (NR) measure type. The PA shall correct the measure classification, determine and justify the proper technical baseline, incremental measure cost, EUL, and estimated incentives for the measure and re-submit.	Measure type
0154-1	**4**	In general, CPUC Staff observes that the PA rarely restricts third party implementers to the specific market sectors implied by their program names, as is the case with the [redacted] pursuing projects within telecom facilities. CPUC Staff requests that the PA explain and justify why this is the case.	Third Party Programs

0154-1	**5**	CPUC Staff finds that the submitted hourly net electric grid impact analysis did not use actual recorded utility purchases and therefore is not acceptable. The PA used estimated hourly usage from the baseline simulation analysis. CPUC Staff requires the PA to re-do the hourly net electric grid impact analysis using actual hourly billing data and account for the proposed fuel cell and all proposed and implemented energy efficiency projects for the analysis time period.	Self generation
0155-1	**1**	CPUC Staff found that the submitted incentive calculation workbook did not match up properly to the PA's approved ex ante impacts in the Technical Review. CPUC Staff found that the peak demand reduction incentive calculation for Measure 2 was deleted from the formula, yet that portion of the formula was found in Measure 1. Measure 2 yields a negative peak demand reduction and it appears to CPUC Staff that the formula was deliberately altered to maximize the estimated incentives. The PA's Technical Review process does not check the estimated incentives and therefore missed the alteration. CPUC Staff requires that the PA correct the incentive calculations for this project and resubmit the corrected estimated incentives that reflect the findings of this disposition. In addition, the PA will ensure that alterations to the incentive calculation formulas do not happen without explicit authorization and justification. The PA shall include checking and reporting the estimated incentive amounts as part of their technical reviews effective immediately.	Incentive calculation
0155-1	**2**	CPUC Staff examination of the submitted eQuest modeling found the following deficiencies: (1) The simulation year was set to 2015 and should be set to 2009 to properly align the calendar days for the DEER peak period. (2) Submitted photographs show VFDs are installed on all of the chilled water (Images 7324, 7326, 7333) and condenser water (Images 7340, 7341, 7342) pumps as well as on the cooling tower fans (Images 7432, 7433, 7437, 7438, 7439, 7440). The eQuest baseline modeling does not reflect VFDs for the above equipment. (3) Turbocor compressors are inherently variable speed machines. The eQuest modeling does not take that into account and is not using performance curves specific to the installed equipment. The PA shall correct the above deficiencies in the modeling and re-submit the estimated impacts.	Baseline

0155-1	**3**	The submitted photographs of the telecom rooms are not clear as to the location of both the supply and return air in respect to the thermostatic controls and the equipment racks. It is unclear whether the existing supply air is either an underfloor plenum or ducted to the equipment racks underfloor. The PA needs to better describe the existing air distribution system. A schematic diagram of the layouts may best describe the conditions for each room. From the current submitted documentation, CPUC Staff surmises that the proposed changes to the air distribution system in each telecom equipment room are permanent, irreversible changes. As such, they do not qualify as a Retrofit Add-on (REA) measure type. The PA did not provide adequate documentation to support an Early Replacement (ER) measure type. The submitted influence document is only a chronology of 3P contact and prior work for the customer and two investor owned utilities (IOUs). Therefore, CPUC Staff finds that Measure 1 is a Normal Replacement (NR) measure type. The PA shall correct the measure classification, determine and justify the proper technical baseline, incremental measure cost, EUL, and estimated incentives for the measure and re-submit.	Measure type
0155-1	**4**	In general, CPUC Staff observes that the PA rarely restricts third party implementers to the specific market sectors implied by their program names, as is the case with the [redacted] pursuing projects within telecom facilities. CPUC Staff requests that the PA explain and justify why this is the case.	Third Party Programs
0174-1	**1**	CPUC Staff regret that based on the PA's response to the first review for this project, there seems to be some confusion regarding measure eligibility in the 2014 Statewide Air Compressor Program Guidelines document. CPUC Staff reiterate that program induced early replacement to code or normal replacement to code has not been authorized by the CPUC for the VFD driven air compressor measure. Additionally, installing a new compressor cannot be a REA measure type. The 2014 Statewide Air Compressor Program Guidelines document states that compressed air projects must exceed code to be eligible for incentives "2) Early Retirement – For program induced early retirement compressed air measures the proposed equipment must exceed the T24 code requirements.". Staff's interpretation of the code is that a VFD driven compressor would be a code requirement for this customer when an air compressor is replaced or added to their system. This project proposes to add a new VFD air compressor to the customer's system. This is a code compliant measure. The cost and savings impacts associated with the VFD driven air compressor are ineligible. The PA must revise and resubmit the project documentation.	CPUC Policy

0174-1	**2**	The PA's response seems to imply that compressed air systems have a system performance metric for Title 24 compliance "The discussion here provides reasonable assurance that there will be second period savings above the current Title 24 requirement of a VFD compressor (or equivalent) and a minimum of 1.0 gal./CFM storage." CPUC Staff remind the PA that Title 24 has not established any system performance metrics (e.g. minimum kW/CFM) for compressed air systems. At this point compliance is simply component based. The VFD compressor appears to be a Code required component for this project and any project cost and savings impacts associated with installing this code compliant component are ineligible for ratepayer funded incentives.	Baseline
0174-1	**3**	The PA must refer to the requirements provided in the first EAR for this project and resubmit the project documentation to comply with those requirements.	Did not follow previous CPUC guidance
0174-1	**1**	Staff reiterate that program induced early replacement to code or normal replacement to code has not been authorized by the CPUC for the VFD driven air compressor measure. Additionally, installing a new compressor cannot be a REA measure type. CPUC Staff expect that the PA will ensure that all projects fully comply with this guidance.	Did not follow previous CPUC guidance

0096-1	**1**	The customer has requested that they be authorized to order equipment for this project at their own risk while the project is being reviewed, pending the verification of the gross savings impacts. The customer does not seem to understand that the ex ante review includes policy and program rules as well as gross savings impacts. CPUC Staff note that the measure types are incorrectly defined for this project, and this will impact the baseline and eligible gross savings impacts associated with the implementation of the project. CPUC Staff have examined the evidence provided by the PA, and have also determined that the implementer has inaccurately stated the date of the program agreement for this project in the feasibility study. The design for this project was complete before the customer enrolled in the program. The preponderance of evidence, based on the documentation provided is that there is little program influence on the customer's design for this project and that the program has had little influence on the customer's decision to retire the equipment early. The claim for program induced early retirement is rejected and the net to gross ratio (NTGR) for this project will be set to zero. **If the PA still wishes to pursue gross savings impacts for this project, the measure types and baselines must be revised, and the NTGR shall be set to zero. CPUC Staff advise the IOU that this is the last project which will be given an exception and that any future project where the preponderance of evidence is that there is insufficient program influence (NTGR=0) will be rejected.** If the PA still wishes to pursue gross savings impacts for this project, the PA must advise the customer that the documentation presented for review is incorrect and must be revised. The revisions of the documentation may affect the gross savings impacts and incentive for this project. CPUC staff have no objection to the customer ordering equipment for this project after the customer has been informed of these risks by the PA and the customer has provided a signed, dated letter acknowledging their understanding of the risks described above to the financial incentive for this project.	Eligibility

0096-1	**2**	According to the feasibility study prepared by the implementer, the implementer signed a participation agreement with the customer on February 26, 2015. This appears to be inaccurate. The program enrollment form and terms and conditions form provided by the PA were signed by the customer on January 29, 2016 approximately 11 months later than the date stated by the implementer. The project design documents provided by the PA are dated December 1, 2015-before the program enrollment form was signed. The feasibility study is signed by the customer with a date of 2/12/2016. The feasibility study states that the implementer analyzed several options for the compressed air system for the customer. No documentation demonstrating this analysis has been provided. The PA has provided a letter from the customer dated April 6, 2016 stating that "Had the program not influenced the early retirement of our compressors, they would have continued to operate in their current function." CPUC Staff have examined the evidence described above which was provided by the PA, and have also determined that the implementer has inaccurately stated the date of the program agreement for this project in the feasibility study. The design for this project was complete before the customer enrolled in the program. The preponderance of evidence, based on the documentation provided is that there is no program influence on the customer's design for this project and that the program has insufficiently influenced the customer to retire the equipment early. The net to gross ratio (NTGR) for this project is set to zero.	NTG
0096-1	**3**	The project design was completed before the customer enrolled in the program. The claim for program induced early retirement is rejected. As described above the NTGR for this project is set to zero. If the PA still wishes to pursue gross savings impacts for this project, the measure types and baselines must be revised. The PA has combined several measures together into a single measure designated as "Compressed Air System Optimization" ER measure type, 5 year EUL. The measures must be segregated into their appropriate measure types and their baselines assigned as follows: 1. Convert an existing liquid propane tank to compressed air storage, REA measure type, in situ baseline. 2. Install an intermediate control valve, REA measure type, in situ baseline. 3. Install a 1,400 ACFM (minimum), oil free, rotary screw variable speed drive controlled air compressor, Normal Replacement (NR) measure type. The baseline is the same capacity oil free, rotary screw load/unload controlled air compressor operating under the same compressed air demand load profile as determined from post project installation monitoring for 4 weeks. 4. Install new controls to optimally sequence the air compressors. REA measure type. Savings analysis and M&V plan will account for verifying the impacts on compressed air "blow off" from the centrifugal air compressors.	Measure type
0096-1	**4**	A calculation methodology must be devised to accurately estimate the savings impacts of each measure for this project accounting for the reassigned baselines.	Calculation method
0096-1	**5**	The M&V plan for this project must be revised and resubmitted to account for the reassignment of baselines for this project.	M&V plan

0096-1	**6**	The PA technical review form has not been revised on all tabs to remove the refrigerated dryer measure from the approved savings impacts. The PA must revise the technical review form to correctly reflect the approved savings measures.	Correct inaccurate documentation
0096-1	**7**	The PA must revise the project documentation to show the correct cost basis, EUL, savings impacts and incentive for each measure.	Missing required information
0096-1	**1**	The project was selected in July 2016 for ex ante review. The PA uploaded documents for the project on 7/5/2016. CPUC Staff had a conversation with the IOU regarding several compressed air projects selected for review. The IOU was directed to examine all compressed air projects for compliance with the 2014 Statewide Compressed Air standards and report back to staff. The IOU uploaded revised documents for this project on December 2, 2016. CPUC Staff understand the customer's frustration with the review process. It is unfortunate that similar to many projects previously reviewed by the EAR team, this project is well advanced and customer expectations have been set by the implementer and IOU. For all future projects, the PA must make a more diligent effort to perform eligibility review in the early stages of project development to avoid this situation.	CPUC Policy
0096-1	**2**	CPUC Staff advise the IOU that this is the last project which will be given an exception to permit the PA to consider whether to continue to pursue gross savings and that any future project where the preponderance of evidence is that there is insufficient program influence (NTGR=0) will be rejected.	Eligibility
0100-1	**1**	As noted in the 12/9/2016 CMPA Message, CPUC Staff agreed with the PA decision to allow the customer to proceed with equipment ordering. Further, during conference calls on 2/9/17 and 2/16/17, CPUC Staff asked the PA to provide an update on the estimated equipment delivery dates and a timeline for the project installation. CPUC Staff requests that the PA provide the requested follow-up information within 14 days of receipt of this disposition. CPUC Staff will continue the review of this project at the post-installation true-up stage. The PA may proceed with the project.	Missing documents

0142-1	**1**	For this project the implementer has measured the air compressor amps to establish the baseline operation of the compressed air system. The 2014 Compressed air Guidelines require true power measurement. From the guidelines: " When measurements are required, true power will be measured in one minute or less increments for two weeks on all system compressors whether they are normally operating or not." As CPUC Staff have demonstrated for the PA from true power measurements on previous projects, the power factor varies with the compressor load. The PA must provide true power measurements where measurements are required for compressed air projects. **Before** this project is implemented, a minimum of 3 weeks of true power measurements using Dent Elite Pro data loggers or equivalent at one minute or less synchronized intervals must be performed to establish the ex ante baseline operation for this project. Post project a minimum of 3 weeks of true power measurements at one minute or less synchronized intervals must be performed to establish the ex ante post project operation for this project.	M&V plan
0142-1	**2**	The final ex ante savings claim for this project will be based upon the change in the compressed air system specific energy (kW/CFM)- pre and post project multiplied by the average post project compressed air CFM demand. The PA must submit the complete savings analysis, including all data files (raw data files and .CSV data files) collected for CPUC Staff review after the completion of the project and before any incentives or final implementer performance payments are paid for this project.	M&V plan
0142-1	**3**	For the REA measure type, the 2014 Compressed Air Guidelines state "3) Retrofit Add-on – Will not trigger the T24 code requirements if the customer does not intend to replace, add, or remove a compressor as a separate project in the following 12 months." The PA must provide evidence that the customer does not intend to replace, add, or remove a compressor as a separate project in the following 12 months. If the customer is unable to provide this statement the REA measure type must be rejected and the measures resubmitted with the appropriate measure type classification. A dated signed letter from a customer representative on Company letter head will be sufficient for this project.	Eligibility
0167-1	**1**	This measure (electric submersible pumps installed at oil production facilities) is ineligible for ratepayer funded incentives. The PA must reject this measure.	Eligibility
0167-1	**2**	Past CPUC EM&V interactions with customers in this industry has revealed that customers replace a significant percentage of pumps after failure. In order to maintain the production level and facility operations, pumps of various capacities are kept in inventory so that failed equipment can be quickly replaced. The applications presented by the IOU seem to fall in the category of stocking replacement inventory, since the IOU is not able to identify exactly which pumps are proposed to be replaced by this project and only states that "those with the lowest efficiency will be replaced". CPUC Staff do not find any evidence that providing ratepayer funding for this activity has a meaningful effect on the customer's decision processes. CPUC Staff find little evidence of program influence and the NTGR for this measure must be set to zero.	NTG

0167-1	**3**	The PA must provide a list to CPUC Staff of all applications for this measure (new technology, improved performance electric submersible pumps at oil production facilities) which have been approved, including the date of their approval and the date the applications was placed on the bi-monthly CMPA list and shown as "Ready for Review."	Missing required information
0167-1	**1**	Past ex post evaluations have determined that the previous pump models which have been incentivized by the IOU have been installed by the customers in this industry for many years were standard practice, resulting in zero gross savings impacts. It appears that the customer is in the process of changing their standard practice to the latest generation of submersible pumps from the same manufacturer.	Baseline
0167-1	**2**	CPUC Staff note that this measure (replacement of electric submersible pumps) has been claimed repeatedly over many years for the same customers. Using ratepayer funding for these routine maintenance practices does not provide net incremental benefits to the ratepayers.	Maintenance
0167-1	**3**	CPUC Staff note that the PA has exempted this project from the State wide program rule (Section 1.5, Item 2. Qualifying Energy Efficiency Measures) which requires that measures have an effective useful life of greater than 5 years: "**2. Must Operate at Least Five Years.** The Project Agreement requires that the new equipment or system retrofit must provide energy savings for a minimum of five years. Measures with an effective useful life of less than five years are generally ineligible; Utility Administrators may allow selected measures with a EUL of less than 5 years at their discretion. Retrofit Add-on projects consider the effective useful life of the host equipment as well as the add-on equipment." The EUL for this measure has been set at 3.5 years by the ex post evaluation team. CPUC Staff can find no reasonable justification for the PA exempting this measure from the prudent State wide five year savings persistence requirements given the fact that lack of net lifetime incremental benefits to the ratepayers for many previously supported project and or this proposed normal customer upgrade in their practices. Additionally, the simple payback for the customer undertaking this update to their maintenance practices is less than one year without any program incentives.	PA program rules
0167-1	**4**	The PA documentation states that "The customer's pay back threshold is about 3-4 years and the project could not move forward without a SCE incentive." CPUC Staff note that based on the information provided by the PA, the simple payback for this measure is expected to be less than one year before incentive. It is unclear what role ratepayer funded incentives have for this measure.	Program influence
0167-1	**5**	Limited demonstration of the impacts of a new technology (if the improved pump performance is in fact based on new technology) which has not yet gained market acceptance and also has market barriers that are preventing adoption is more appropriately funded through "emerging technology" programs and not funded through ongoing ratepayer supported energy efficiency programs. In this case CPUC staff does not see that a case for market barriers preventing market adoption is evident to even justify ET support, but is open to review such evidence.	CPUC Policy
0167-1	**6**	CPUC Staff finds that paying 100% of the IMC for a measure that already has a short simple payback period and that has a EUL of less than 5 years is inappropriate and lacking any reasonable PA supporting justification as required by EE policy.	CPUC Policy

0173-1	**1**	The project is best characterized as a Normal Replacement (NR) measure type with a capacity expansion. The PA must change the measure type for this project to Normal Replacement.	Measure type
0173-1 **0173-1**	**2**	The M&V plan for this project must be revised and resubmitted using the following concepts as guidance. The system is being reconfigured to meet new exhaust requirements. The ex ante baseline will be determined after the project is completed. For each fan system (typical of two) after installation is completed: <u>Baseline:</u> All exhaust gates will be fully opened to simulate a constant volume system. Average true power will be measured for a minimum of 60 minutes at 5 minute or less intervals using Dent Elite Pro or equivalent loggers. Measurement of duct static pressure from the new control system will be measured in intervals synchronized with the true power measurements to demonstrate that the baseline and enhanced operating conditions are similar. <u>Enhanced measure:</u> The system will be set to automatic operation during a period of normal facility operation which is considered to be representative of typical usage. Average true power will be measured for a minimum of 28 days at 5 minute or less intervals using Dent Elite Pro or equivalent loggers to establish post installation energy usage. Measurement of duct static pressure from the new control system will be measured in intervals synchronized with the true power measurements. The annual hours of operation will be estimated from the 28 days of logging with accounting for holidays and any other annual shutdown periods. The annual kWh savings impacts will be calculated by subtracting the average kW (when operating) over the 28 day measurement period from the average measured baseline kW and multiplying it by the annual hours of operation. Peak demand impacts will be calculated by averaging the (Monday-Friday) kW during the peak DEER hours for this climate zone and subtracting it from the average constant volume kW determined from the baseline measurement. The PA must revise and resubmit the M&V plan and calculation methodology for this project before the customer is authorized to proceed to implement this project. The M&V plan and calculation methodology should be complete in every detail so that all that is required at the completion of the project is to input the data measured for the project.	M&V plan
0173-1	**3**	According to the project documentation the "...savings calculations are based on the energy savings from the constant volume baseline system that [CUSTOMER NAME] would have installed." The PA has provided no evidence that the customer had planned to install a constant volume baseline system. The PA must upload evidence supporting this statement to the CMPA folder for this project. Evidence may include design documents, quotes from vendors, etc. Unsupported statements have no weight as a preponderance of evidence of program influence and baseline.	Missing documents

0072-1	**1**	CPUC staff concludes the project not eligible for SBD custom incentives and is rejected. CPUC Staff requires the PA to cancel this custom project application. An email from the customer on February 22, 2016 indicates that LED fixtures were already part of the proposed lighting system design criteria: *"We are proposing LED's for the internal warehouse lighting. Will that allow us to qualify for some benefit?"* (e.g. "CONFIDENTIAL 0500769673 Email for influence and early involvement1.pdf" p. 3).	Eligibility
0072-1	**2**	EAR team could not find a Letter of Intent or Project Application among the documents submitted to CMPA for this project. Please upload.	Missing documents
0072-1	**1**	While this project is not approved, the EAR team notes the following problems with the development operating hours used in calculating the ex ante savings values: 1. For this project, the inputs to the Easy Lighting Calculator assume non-DEER HOU and CDF that are almost twice the DEER values. This is not allowed since this project appears to fit within the DEER building category of Light Industrial or Conditioned Storage. Anticipated higher HOU compared to DEER values is not, by itself, adequate justification for using non-DEER HOU inputs. DEER values represent typical values, for common building types, developed based on logger field studies of building samples applied to a population of buildings. 2. PAs may propose non-DEER building types where there is program activity in a building type with operating conditions that are substantially different from any of the DEER building types. In these cases, CPUC staff requires EM&V for a reasonable, multiple building sample of the proposed building type. A single site is inadequate to establish the parameters of a new building type with sufficient certainty. If the building fits reasonable well within a DEER building category, then different hours of use alone is not an adequate justification for using either non-DEER HOU or CDF. However, CPUC staff will consider multiple shift operations occurring in otherwise similar DEER building types on a case-by-case basis. 3. CPUC staff acknowledges that truly unique buildings do exist. These buildings may not be well represented by any DEER building type but also may be one-of-kind with a very specific and unique set of operating conditions. CPUC staff requires on-site logging of actual lighting operations to support any non-DEER hours of use. For projects that include installations of new lighting controls, pre- and post fixture loggering or operations data monitoring are required.	Analysis assumptions

0072-1	**2**	The proposed M&V is to provide screen shots from the building automation system. Each proposed fixture includes integrated occupancy sensor and daylight controls. It is likely the EMS system screen shots will only show when power is on to the fixtures, but not when the fixtures are actually switched on by the fixture integrated controls. CPUC staff requires that lighting EM&V include actual monitoring and data logging of the lighting equipment operations. Using a building automation system may be acceptable if lighting equipment operations can be isolated from other building systems. Otherwise lighting loggers must be used. Where loggers may be exposed to natural daylight or other lighting equipment with different operating conditions, current loggers will likely be needed. For projects that include installations of new lighting controls, pre- and post-installation fixture data logging or operations data monitoring are required.	M&V plan
0072-1	**3**	The most recent satellite images available from Google Earth show that this building has a significant amount of skylights and therefore skylit daylight area in the building. Section 130.1(d) 2 states: *"Luminaires providing general lighting that are in or are partially in the Skylit Daylit Zones or the Primary Sidelit Daylit Zones shall be controlled independently by fully functional automatic daylighting controls that meet the applicable requirements of Section 110.9 ..."* The EAR team could not identify any daylighting controls in the submitted lighting design documents ("CONFIDENTIAL 0500769673 Area measurement and lamp count.pdf"). Daylighting controls will reduce the overall operating hours and CDF value observed through any lighting data logging studies.	Baseline
0072-1	**4**	Based on SCE's published program documents as well as a brief review of Program Implementation Plans (PIPs), SBD is the primary incentive path for new construction lighting projects. There are no downstream incentives available for new construction lighting projects. According to the 2016 Solutions Directory (17th Edition, January 2016), the LED fixtures fall under Solution Code LT-70713 (>202 to 262-watt High/Low Bay LED, replacing MH or PSMH) with an incentive of $145/fixture. If this relatively simple new construction project were to have been eligible for deemed incentives similar to existing buildings, the incentive to the customer would have been $142,390, which is nearly identical to the custom incentive.	Incentive calculation
0043-2	**1**	This disposition covers the procedures for determining and timing for paying the customer incentive for this project. Due to the fact that current estimate have determined that the customer incentive will be limited by incentive cap rules not energy savings, Commission staff approves paying the customer incentive prior to the post-installation M&V and analysis that will be utilized to determine the savings authorized to be claimed. The requirement for the post-installation M&V and analysis, which will not affect the customer incentive but will set the approved savings claim all other payments to others for such savings, will be the subject of a separate disposition to be issued at a later date.	Incentive calculation

0043-2	**2**	The customer incentive shall be determined following the below process: a. The total customer incentive shall be the lower of $1.5 million or 50% of FMC (Full Measure Cost) currently estimated to be $2.66 million; b. Commission staff has determined that this customer incentive determination procedure is justified and reasonable based upon the savings initial estimates developed for the project, which range from 2,344 to 2,661 kW, and 14,628,575 to 16,608,779 kWh such that the incentive will be limited by cost caps not savings. However, Commission staff also determined it is reasonable to put an upper limit (the $1.5 million value) on the customer incentive in addition to the current $1.33 million derived from the 50% cost cap. c. The customer incentive will be processed and paid, according to a. above, prior to the completion and analysis of the post installation M&V provided that - 1) all invoice requirements outlined in this disposition are met and 2) the installed and commissioned system passes operational inspection that demonstrates that the VSD controls allow the pumping system to operate at a reasonably expected reduced energy consumption during press idle times in actual production use over a minimum3 month period - this operational inspection shall be fully documented in the Installation Report (IR) 3) the customer agree to provide the documentation and reasonable access or data to support the post installation M&V and analysis for the final savings calculation.	Incentive calculation
0043-2	**3**	Project Invoice and Cost Requirements: 1. All project cost documentation including invoices with detail pertaining to EE measure listed above must be: a) Reviewed and approved for payment by customer; b)Submitted with the Installation Report (IR) and will be subject to PA and CPUC's review and approval (Costs incurred after IR submittal date are ineligible). 2. Project cost documentation must detail how any cost allocation was calculated for larger component costs or invoices and such cost allocations and calculations will be subject to eligibility and/or reasonableness review and approval by the PA and CPUC staff. 3. Project cost documentation for any re-work or fixing of installation errors and/or operational or equipment failures to perform as expected as well as spare parts are ineligible and all such items should be clearly identified in the documentation.	Incentive calculation

0043-2	**4**	Project Completion package and Installation Report standard requirements shall be augmented to include details supporting the following requirements: 1. The PA must visually inspect the completed and commissioned and production operation to confirm installation and implementation of the VSD pumping system and controls; 2. The PA must obtain and include in the IR production operation data for a period of time no less than three months that demonstrates that the VSD pumping system operates at reduced energy use during press idle periods as expected; 3. The PA must verify the vendor Systems Turnover Package including documentation for: - Installed VFDs and motors specification sheets. - Descriptions of the installed VFDs, motors and their functions and the basis for design. - Functional verification of the project in-scope (including the detailed data described in 2. above) - Sequence of operation, set-points and controls, and any special considerations. - Piping & Instrumentation Diagrams (P&IDs). - Process Flow Diagrams (PFDs). - Commissioning Completion Certificate, if available, or a commissioning report from the vendor and/or customer.	M&V plan
0043-2	**5**	The following are minimum requirements for post-installation M&V data gathering to support analysis to establish the project final savings (which will not impact the customer incentive but will be the basis for PA savings claim and any implementer payments). A more complete M&V and analysis plan will be developed at a later date and thus this information is only being provided so that the customer understands the expectation for data gathering. • M&V Option and Measurement Boundary: IPMVP Option B (Retrofit Isolation with All Parameter Measurement) will be utilized; The measurement boundary for this project is the parts produce and energy use by the new 60K ton press pumping system in different modes of operation. • VFD-bypassed operational power and timing measurements for all pumps and related auxiliaries in typical expected 30K and 50K operation modes during shut-off, idle, press lowering, holding/forging, and return modes (for a short period of time, not less than one shift but may require multiple days to obtain reasonable and reliable data, but performed when the system is fully commissioned and accepted for production use). • Normal system operational power and timing measurements for all pumps and related auxiliaries during the post-commissioning production operation period (1-year). • Part production log showing press operating mode and timings during the post-commissioning production operation period (1-year). • Meter accuracy and calibration documentation (in the event calibration documentation is not available, side-by-side meters with calibration will be installed to compare the measured data).	M&V plan

0043-2	**N1**	This 2nd CPUC staff EAR Findings document refers to the customer incentive payment portion of the project only. A separate EAR findings document will address the PA's final savings claims and any third party implementer payments must only be based on final CPUC staff approved savings resulting from post-installation M&V and analysis. Any early customer or implementer payment must be pre-approved by CPUC staff. The PA will work with CPUC staff to develop and a robust M&V and analysis plan for this project.	M&V plan
159-1	**1**	The 8760 HOU value is not allowed. Revise savings calculations to use DEER HOU and CDF values. This project appears to be a mixture of conditioned storage, refrigerated storage and light manufacturing DEER building types. Revised savings calculations shall be submitted with final project documentation after completion of project. D.12-05-015 requires the use of DEER building type assumptions except in cases where PAs have proposed an alternative building type supported by a representative sample of buildings with lighting loggering and M&V.	Analysis assumptions
159-1	**2**	Project review appears superficial and misses key points:	Due diligence

		a. Project appears to be first identified by another firm in March 2016 (see CONFIDENTIAL - 500866498 - _Lighting - Quote & Spec.pdf) but looks to have been reassigned to the current implementer. There was no mention of the initial proposal in the implementer's Project Feasibility Study (PFS). It is not clear why a new implementer was inserted into the project and Commission staff notes that this appears to have greatly increased the cost of the project when considering the implementer's payments on top of the customer incentive. b. Item 1, above, rejects the use of 8,760 annual operating hours and requires instead that savings be calculated assuming a mixture of DEER building types. However, it appears that there was no substantive review of the lighting logger files submitted with the project. For example, one graph shown below shows that monitored space cannot be operating 24x7. c. The claim of program influenced early retirement (now accelerated replacement) is not supported. For this project, this does not impact the savings since the existing baseline is more efficient than code. However, future projects where 1st period savings is greater than second must include better documentation. As discussed in a. above, it does not appear that the current implementer played any role in developing the project. A form letter (CONFIDENTIAL - 500866498 - RET Letter - Signed.pdf), signed by the customer and dated May 31, 2016, is submitted that states only the following: According to our records the existing (86) 4L T54, 6L-T8, (138) 250 W Induction, and (86) 400 W MH at our facility were installed and fully commissioned at the time of our last remodel. Since that time the lights have continued to function in proper working order and have been maintained. The existing lights should be operational for a minimum of (12) months, and when needed could be replace with our reserve of bulbs and ballasts. Had the energy efficiency program not influenced the early retirement of our existing lighting, they would have continued to operate in their current function for the foreseeable future. The self-certification form appears to have been signed by the customer (May 31, 2016) after the project proposal (which included the estimated SCE incentive payment). Self-certification of the type provided in the form letter is not adequate to support the early retirement claim, particularly since maintenance costs appear to be approaching to cost of replacing the lighting system. The submission of maintenance records (CONFIDENTIAL - 500866498 - Lighting - Maintenance Records.xls) of existing systems shows the customer had maintenance costs of $38,587 in 2014, $42,801 in 2015 and $8,938 in the first two months of 2016, for a total of $90,326 in two years and two months. The baseline full cost is $70,835 (CONFIDENTIAL - 500866498 - 500866498_Lighting - Calcs_11-21-16.xlsx). The high maintenance costs compared to the baseline full cost indicate that the system may have reached the end of its useful life. This indicates normal replacement, which also then means the baseline would have to be updated to an industry standard practice. For all future projects provide additional information to support the case for program influence of early retirement. A project such as this one, for example, would require: (1) Role of the original contractor who made the first proposal (CONFIDENTIAL - 500866498 - _Lighting - Quote & Spec.pdf) and why the project was not pursued under this original proposal. (2) Any information on age and maintenance practices of lighting systems at other facilities operated by this customer that indicate systems are kept in place even when annual maintenance costs exceed 50% of the replacement cost of the system	

160-1	**1**	The 8760 HOU value is not allowed. Revise savings calculations to use DEER HOU and CDF values. This project appears to be a mixture of conditioned storage, refrigerated storage and light manufacturing DEER building types. Revised savings calculations shall be submitted with final project documentation after completion of project. D.12-05-015 requires the use of DEER building type assumptions except in cases where PAs have proposed an alternative building type supported by a representative sample of buildings with lighting loggering and M&V.	Analysis assumptions
160-1	**2**	Project review appears superficial and misses key points: a. Item 1, above, rejects the use of 8,760 annual operating hours and requires instead that savings be calculated assuming a mixture of DEER building types, however, it appears that there was no monitoring data submitted to substantiate the claim of 8,760 HOU. b. Commission staff acknowledges that the claim of program influenced early retirement (now accelerated replacement) is plausible but not well supported. For this project, this does not impact the savings since the existing baseline is more efficient than code. However, future projects where 1st period savings is greater than second must include better documentation. Maintenance records appear to indicate that there is an adequate supply of replacement components. However, savings calculations submitted by the implementer indicate a simple payback on the entire project of about one-and-one-half years absent the incentives, which provides a compelling financial motivation on its own, without the incentives. A form letter (CONFIDENTIAL - 500866839 - RET Letter - Signed.pdf), signed by the customer and dated May 31, 2016, is submitted that states only the following: According to our records the existing 4 Lamp T5 Fixture, 400W Metal Halide and 1000W Metal Halide fixtures have been maintained regularly by our internal facility staff. It is due to this continuous maintenance that our lights have continued to function as intended. The existing lights should be operational for a minimum of (12) months, and when needed could be replace with our reserve of Metal Halide / T5 bulbs and ballasts. Had the energy efficiency program not influenced the early retirement of our existing lighting, they would have continued to operate in their current function for the foreseeable future. The self-certification form appears to have been signed by the customer (May 31, 2016) after the project proposal (which included the estimated SCE incentive payment). Self-certification of the type provided in the form letter is not adequate to support the early retirement claim, particularly since the simple payback on this project absent incentives is so short. Commission staff has allowed this project to move forward with the savings calculations adjustments directed above, but is concerned that actual gross and net savings may be lower. The short payback provides evidence that the project may not be early retirement and also may support that LEDs are becoming the ISP due to their high savings potential and short in-service time to achieve return on investment.	Due diligence

0175-1	**1**	The customer stated that they are not aware of any hydrogen plant retrofit projects where the [redacted] adsorbent was replaced with the [redacted] adsorbent. The customer also stated that the hydrogen production facility where this retrofit is proposed is the only plant they are aware of with the [redacted] issue. CPUC Staff have concluded that the project is a first of its kind and that the energy impacts are highly uncertain. Under situations where savings are highly uncertain either due to an untested approach or untested product or a unique new measure and where the pre-installation savings values may be difficult to reliably estimate by analysis, there should be no approval of savings estimates until the post installation data set is analyzed. No savings estimate will be approved for this project until post installation M&V is reviewed. The pre-installation ex ante impacts for this project must be set to zero peak demand kW, zero annual kWh and zero annual therms. The ex ante impacts for this project will be trued-up based on post installation M&V. SCE and SCG must make clear to the customer and any implementer's involved that no peak demand kW, annual kWh or annual therm estimates based only upon pre-installation estimates may be utilized for any payments for this project. No savings based payment shall be made on this project except based upon approval of pre-/post-installation M&V and analysis approved by Commission staff. Before executing an incentive agreement SCE and SGC must modify that agreement to make clear that pre-installation savings estimates are highly uncertain and no payment will be made based upon such estimates. The PAs must revise the project documentation and upload it to the CMPA folder for this project to reflect this requirement.	Revise to match CPUC savings estimate
0175-1	**2**	The project feasibility studies presented by SCE and SCG were very thorough provide a good description of the existing and proposed systems for this complex industrial project. However one area not directly addressed in the feasibility studies provided by SCE and SCG, is that a high percentage of the natural gas consumed at this facility is used as a material to make a product (i.e. hydrogen). The submitted ex ante savings analysis includes expected impacts from natural gas used as a material to make hydrogen. Any reduction in natural gas used as a material resulting from the implementation of this project is ineligible to be claimed or incentivized by the PA as "Energy Efficiency". Any reliably verified reduction in natural gas usage associated with natural gas used as energy resulting from the implementation of this project (e.g. combusted in the reformer furnace) may be claimed as energy efficiency. Reductions in natural gas used to produce work (e.g. thermal energy) may be eligible. CPUC Staff will issue a Statewide disposition related to this issue in the future. The PA must revise and resubmit the project documentation including the calculation methodology and M&V plans to reflect this requirement before executing an incentive agreement for this project.	CPUC Policy

0175-1	**3**	CPUC staff note that the customer has extensive data collection and archiving capabilities. Both PAs have proposed a normalized metered energy consumption (NMEC) analysis approach for this project. CPUC Staff note that the proposed savings impacts are 4.6 % of the total annual therms and 7.3. % of the total annual kWh. The eligible natural gas savings impacts will be significantly reduced from the proposed levels due to the ineligibility of natural gas used as a material to be claimed as energy savings. CPUC Staff are concerned that the expected savings impacts are too small relative to the total annual consumption for this approach to be reliable. The PAs must examine the baseline data to determine if this approach is appropriate for this project-e.g. are the natural variations in kWh/scf and therms/scf too large to reliably detect the projected savings impacts for this project? If so another M&V approach may be necessary. SCE and SCG must work together to devise a single comprehensive and coherent M&V plan for this project. CPUC Staff note that the preliminary analysis for this project used the customer's electric meter data, not SCE's revenue meter data. The post installation analysis must use the SCE electric interval data for both the baseline and post installation analysis if the NMEC approach is used. CPUC staff note that the current M&V plans do not account for ambient temperature (the customer indicated this is an important parameter) and do not account for the production of [redacted]- which has a direct impact on electrical energy consumption. The PA must revise the project documentation to address these issues before executing an incentive agreement for this project. The revised documentation must be uploaded to the CMPA folder for this project.	M&V plan
0175-1	**4**	CPUC Staff note that the project is expected to decrease but not eliminate the required frequency for the customer to [redacted]. The PA documentation indicates that argon freezing increases the pressure drop in this heat exchanger increasing the compressor energy required. This freezing causes a degradation of the compressor performance over time as the frozen [redacted] builds up on the heat exchanger, increasing the kWh/scf hydrogen in the liquefaction process. The PAs currently propose that the post installation M&V period for this project be 3 months and that data be analyzed in 5 hour intervals. The M&V plan duration must include consideration for the period of time that the existing and post implementation systems are degrading in their specific energy performance metrics. The proposed measurement periods must include full cycles of degraded performance so that a valid performance comparison can be made. Additionally it is unclear why a 5 hour data interval is being proposed for this project. A re-assessment of the required duration and analysis interval for the proposed M&V must be included in the revised M&V plan. The PAs must revise the M&V plan reflecting these requirements before executing an incentive agreement for this project. The M&V plan will be a single plan demonstrating how the impacts of the project will be determined for both natural gas and electricity. The revised M&V plan must be uploaded to the CMPA folder for this project.	M&V plan

0175-1	**5**	The PAs have proposed a 20 year RUL for this accelerated replacement measure type. For the accelerated replacement measure type the RUL for the first baseline is set at 1/3 of the host equipment/existing equipment EUL per D.12-05-015. The maximum EUL for is 20 years. The RUL for this project must be revised to 1/3 x 20 = 6.7 years. The PA must revise the project documentation with the correct RUL before executing an incentive agreement for this project.	EUL/RUL
0175-1	**N1**	Commission D.05-04-051, Ordering Paragraph 1Attachment 3, Appendix B defines an energy efficiency measure as: "An energy using appliance, equipment, control system, or practice whose installation or implementation results in reduced energy use (purchased from the distribution utility) while maintaining a comparable or higher level of energy service as perceived by the customer. In all cases energy efficiency measures decrease the amount of energy used to provide a specific service or to accomplish a specific amount of work (e.g., kWh per cubic foot of a refrigerator held at a specific temperature, therms per gallon of hot water at a specific temperature, etc.)." Reductions in natural gas used as a material to make products resulting from proposed energy efficiency projects are ineligible for energy efficiency program participation. CPUC Staff will issue a Statewide disposition related to this issue in the future.	CPUC Policy

Attachment B2 Custom Project Scores and Feedback

The table below lists the identification numbers associated with each disposition. The PA may refer to Attachment B1 for more detailed descriptions of the specific actions staff required for each application. All custom projects were scored using new metrics adopted in 2016. The metrics are shown in the Table below.

Table 3 *2016 Adopted ex ante Metrics*

Metric	2016 CPUC Adopted ex ante Metrics	Maximum Points	% of TOTAL POINTS
Metric 1	**Timeliness and Timing of Submittals** Timely submittal of all documentation and follow-up utility responses to review disposition action items.	**5.0**	**10%**
Metric 2	**Content, Completeness and Quality of Submittals** Completeness, appropriateness, comprehensiveness, accuracy, and clarity of submitted documentation. In addition, this metric is an assessment of the utility's adherence to CPUC policies, Decisions, and prior CPUC Staff disposition guidance.	**15.0**	**30%**
Metric 3	**Proactive Initiation of Collaboration** Utility's efforts to bring either measures, questions, and/or savings calculation tools to CPUC Staff for discussion in the early formative stages, before CPUC Staff review selection. In the case of tools, before widespread use in the programs. CPUC Staff expects collaboration among the utilities and for the program administrators to engage with CPUC Staff in early discussions on high profile, high impact measures well before customer commitments are made.	**5.0**	**10%**
Metric 4	**Utility Due Diligence and QA/QC Effectiveness** CPUC Staff expects the utility to have effective Quality Control (QC) and Quality Assurance (QA) processes for its programs and measures. The depth and correctness of the utility's technical review of its ex ante parameters and values, for both Core and Third Party programs, are included under this metric.	**12.5**	**25%**
Metric 5	**Utility Responsiveness to Needs for Process & Program Improvements (Course Corrections)** This metric reflects the utility's efforts to improve, operationalize, and improve its internal processes which are responsible for the creation and assignment of ex ante parameters and values. CPUC Staff looks not only to the utility's internal QC/QA process, but also whether individual programs incorporate and comply with CPUC policies and prior CPUC Staff disposition guidance in its program rules, policies, and procedures.	**12.5**	**25%**

	165		99	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**5.0**	PA uploaded initial project documentation within an acceptable timeframe.	**5.0**	PA uploaded initial project documentation within the expected timeframe and followed-up to CPUC Staff subsequent questions in a timely manner.
Metric 2	**7.5**	Although the documentation is generally adequate, a summary of all proposed measures individual impacts, IMC, and proposed incentives is missing.	**3.8**	PA did not follow prior CPUC Staff guidance issued in prior dispositions (X370).
Metric 3	**N/A**	This metric is scored during the final annual ESPI review for overall activities and not just on a single project basis. This project did not entail any issue that the PA should have brought to CPUC Staff attention for proactive collaboration.	**N/A**	This metric is scored during the final annual ESPI review for overall activities and not just on a single project basis. This project did not entail any issue that the PA should have brought to CPUC Staff attention for proactive collaboration.
Metric 4	**3.1**	Although a third party Technical Review document was provided, the name of the reviewer was not disclosed. The document lacks a detailed discussion for each measure that details how it exceeds the 2013 Title 24 requirements for refrigerated warehouses. The EEM summary table does not provide the individual measure impacts (impacts cascaded from one measure to the next in the submitted sequence), IMC values, and proposed incentive levels. The Technical Review does not appear to be conducted by an independent, impartial third party that has no vested interest in the outcome.	**3.1**	PA's Technical Review incorrectly assigned the Retrofit Add-on (REA) measure type when both measures should be considered Normal Replacements (NR).
Metric 5	**6.3**	The PA's collaboration with CPUC Staff needs improvements at both the technical and program implementation levels.	**3.1**	CPUC Staff finds that the PA lacks a clear and transparent vetting process for Prop 39 projects and is allowing to-code measures to receive EE incentives.

	91	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**5.0**	The PA responded in a timely fashion to the first EAR.
Metric 2	**12.0**	The submittals were acceptably complete however The first submission from the PA included three applications. The application numbers were: 500823339, 500816868, and 500823495. The second submission does not include application numbers 500823339 and 500823495, but does include two additional applications numbers 500823496 and 500844896.
Metric 3		NA
Metric 4	**10.0**	The PA cleaned up the errors noted in the first EAR for this project.
Metric 5	**0.0**	Past CPUC EM&V interactions with customers in this industry has revealed that customers replace a significant percentage of pumps after failure. In order to maintain the production level and facility operations, pumps of various capacities are kept in inventory so that failed equipment can be quickly replaced. The application presented by the IOU seems to fall in the category of stocking replacement inventory since the IOU is not able to identify exactly which pumps are proposed to be replaced by this project and only states that "those with the lowest efficiency will be replaced". CPUC Staff do not find any evidence that providing ratepayer funding for this activity has a meaningful effect on the customer's decision processes. CPUC Staff find little evidence of program influence and the NTG for this measure must be set to zero.

	101	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**5.0**	PA uploaded initial project documentation within the expected timeframe.
Metric 2	**11.3**	Reasonably complete but missing the PG&E work paper they claimed as the basis for the proposed outdoor lighting measure. PA approved incentives were not provided, only those estimated by the 3rd party in the PFS. It is unclear exactly how many separate buildings are actually involved in the project. CPUC Staff surmised that at least two separate buildings are involved based on the general descriptions and submitted Google Earth photograph. The year the facilities were built were not disclosed.
Metric 3	**N/A**	This metric is scored during the final annual ESPI review for overall activities and not just on a single project basis. This project did not entail any issue that the PA should have brought to CPUC Staff attention for proactive collaboration.
Metric 4	**0.0**	The PA's technical review incorrectly assigned EUL values to four of the seven proposed measures, failed to correctly assign for Measure 5 (the replacement of the existing pneumatic and digital thermostat controls in the MOB) as NR and question the eligibility of like-for-like functionality, failed to set an appropriate code technical baseline for the thermostats with occupancy sensor controls for the MOB, did not provide an IMC for Measure 5, and did not reflect the correct ISP baseline wattage for the proposed outdoor lighting measure as identified in the PG&E work paper. In addition, the PA technical reviewer failed to recognize that hospitals are subject to Title 24 requirements but a subject to enforcement through OSPHD and not the CEC. The MOB is subject to Title 24 requirements with enforcement from the CEC.
Metric 5	**4.1**	PA continues to lack due diligence in their review of projects submitted by this particular 3rd party implementer. There are significant indications of freeridership for this project although it is not likely a complete zero net saver. PA contract reviewers continue to demonstrate a lack of in-depth understanding of requirements, knowledge, and willingness to closely examine and challenge 3rd party assumptions. The PA's technical review coordination and program staff need to demonstrate improvements in following CPUC Staff guidance and CPUC policy.

	102	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**5.0**	PA uploaded initial project documentation within the expected timeframe.
Metric 2	**11.3**	Reasonably complete but missing the PG&E work paper they claimed as the basis for the proposed outdoor lighting measure. PA approved incentives were not provided, only those estimated by the 3rd party in the PFS. The year the facilities were built were not disclosed.
Metric 3	**N/A**	This metric is scored during the final annual ESPI review for overall activities and not just on a single project basis. This project did not entail any issue that the PA should have brought to CPUC Staff attention for proactive collaboration.
Metric 4	**0.0**	The PA's technical review incorrectly assigned EUL values to two proposed measures, failed to question the eligibility of like-for-like functionality for Measure 7, failed to set an appropriate code technical baseline for the thermostats with occupancy sensor controls, did not limit the IMC for Measure 7 to equipment that exceeds baseline requirements, and did not reflect the correct ISP baseline wattage for the proposed outdoor lighting measures. In addition, the PA technical reviewer failed to recognize that hospitals are subject to Title 24 requirements but subject to enforcement through OSPHD. The MOB is subject to Title 24 requirements with enforcement from the CEC.
Metric 5	**4.1**	PA continues to lack due diligence in their review of projects submitted by this particular 3rd party implementer. There are significant indications of freeridership for this project, it is not likely a complete zero net saver. PA contract reviewers continue to demonstrate a lack of in-depth understanding of requirements, knowledge, and willingness to challenge 3rd party assumptions. The PA's technical review coordination and program staff need to demonstrate improvements in following CPUC Staff guidance and CPUC policy.

	103	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**5.0**	PA uploaded initial project documentation within the expected timeframe.
Metric 2	**15.0**	Reasonably complete.
Metric 3	**N/A**	This metric is scored during the final annual ESPI review for overall activities and not just on a single project basis. This project did not entail any issue that the PA should have brought to CPUC Staff attention for proactive collaboration.
Metric 4	**6.3**	The PA's technical review incorrectly assigned EUL values, failed to examine like-for-like equipment replacements for Measure 1 to limit allowable costs. Trend data not completely cleansed of anomalous data. The PA technical reviewer failed to recognize that hospitals are subject to Title 24 requirements but subject to enforcement through OSPHD. Fortunately, the measures are not impacted by code.
Metric 5	**6.3**	More due diligence in their review of projects submitted by this particular 3rd party implementer is needed. PA contract reviewers continue to demonstrate a lack of in-depth understanding of requirements, knowledge, and willingness to challenge 3rd party assumptions. The PA's technical review coordination and program staff need to demonstrate improvements in following CPUC Staff guidance and CPUC policy.

	114	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**5.0**	PA uploaded initial project documentation within the expected timeframe.
Metric 2	**7.5**	Reasonable but missing some key information like the PG&E work paper they claimed as the basis for the proposed outdoor lighting measure. PA approved incentives were not provided, only those estimated by the 3rd party in the PFS. Spec sheets for the proposed LED fixtures were not provided. Some photographs of equipment may have been mislabeled. The space heating systems for the facility were not described.
Metric 3	**N/A**	This metric is scored during the final annual ESPI review for overall activities and not just on a single project basis. This project did not entail any issue that the PA should have brought to CPUC Staff attention for proactive collaboration.
Metric 4	**6.3**	The PA's technical review didn't check in-depth the calculations, failed to question the eligibility of like-for-like functionality for wireless thermostats, not reflect the CPUC Staff ISP baseline for the proposed outdoor lighting measures. There were contradictory statements in the technical review regarding Demand Response enrollment and the was no action or recommendation regarding the customer's intent to replace the existing chillers in the next 18 to 24 months that would affect several of the proposed measure's EUL value.
Metric 5	**4.1**	PA needs to improve the technical reviews provided by this particular contractor and better question some of the assumptions made by this particular 3rd party implementer. PA contract reviewers continue to demonstrate a lack of in-depth understanding of requirements, knowledge, and willingness to challenge 3rd party assumptions. The PA's technical review coordination and program staff need to demonstrate improvements in following CPUC Staff guidance and CPUC policy.

	154	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**5.0**	PA uploaded initial project documentation within the expected timeframe.
Metric 2	**7.5**	Reasonably complete, but no influence documentation was submitted even though it was cited. The actual audits identifying the recommended measures were not provided.
Metric 3	**N/A**	This metric is scored during the final annual ESPI review for overall activities and not just on a single project basis. This project did not entail any issue that the PA should have brought to CPUC Staff attention for proactive collaboration.
Metric 4	**6.3**	The PA's technical review did not examine the proposed incentive calculations and missed that the calculation formula for Measure 2 was improperly altered. The submitted eQuest model used the CZ2010 weather data for CZ08 but did not use 2009 as the simulation year. Hence, the day types may be misaligned with the DEER peak period definition. The baseline eQuest model do not reflect the actual chillers performance curves. For Measure 1, the technical review did not identify that the changes to the air distribution systems are permanent and irreversible and therefore cannot be classified as a REA measure type.
Metric 5	**3.1**	More due diligence in their review of projects is needed. PA contract reviewers continue to demonstrate a lack of in-depth understanding of requirements, knowledge, and willingness to challenge 3rd party assumptions. The PA's technical review coordination and program staff need to demonstrate improvements in following CPUC Staff guidance and CPUC policy. Although CPUC Staff has asked PA to include the incentives within the scope of the technical review, the PA has yet to do so.

	155	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**5.0**	PA uploaded initial project documentation within the expected timeframe.
Metric 2	**11.3**	Reasonably complete, but the influence documentation was essentially a chronological narrative of 3P contacts with the customer and two IOUs. The actual audits identifying the recommended measures were not provided. The PA did provide a document summarizing their TPI QA findings.
Metric 3	**N/A**	This metric is scored during the final annual ESPI review for overall activities and not just on a single project basis. This project did not entail any issue that the PA should have brought to CPUC Staff attention for proactive collaboration.
Metric 4	**3.1**	The PA's technical review did not examine the proposed incentive calculations and missed that the calculation formula for Measure 2 was improperly altered. The submitted eQuest model used the CZ2010 weather data for CZ08 but did not use 2009 as the simulation year. Hence, the day types may be misaligned with the DEER peak period definition. The baseline eQuest model do not reflect Turbocor compressors (VSD), and VFDs for the cooling tower fans, and the CHW and CW pumps. For Measure 1, the technical review did not identify that the changes to the air distribution systems are permanent and irreversible and therefore cannot be classified as a REA measure type.
Metric 5	**3.1**	More due diligence in their review of projects is needed. PA contract reviewers continue to demonstrate a lack of in-depth understanding of requirements, knowledge, and willingness to challenge 3rd party assumptions. The PA's technical review coordination and program staff need to demonstrate improvements in following CPUC Staff guidance and CPUC policy. Although CPUC Staff has asked PA to include the incentives within the scope of the technical review, the PA has yet to do so.

	166		74	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**5.0**	PA uploaded initial project documentation within an acceptable timeframe.	**2.5**	Uploaded initial response documents to first EAR in less than 3 weeks.
Metric 2	**15.0**	Submitted documentation is reasonably complete.	**7.5**	Reasonably complete documents.
Metric 3	**N/A**	This metric is scored during the final annual ESPI review for overall activities and not just on a single project basis. This project did not entail any issue that the PA should have brought to CPUC Staff attention for proactive collaboration.	**NA**	NA
Metric 4	**12.5**	Technical Review is adequate. The 2013 Title 24 code requirements for refrigerated warehouses are not invoked with the addition of VFDs to two refrigeration compressors and the proposed implementation of sequencing controls. CPUC Staff did not scrutinize the detailed spreadsheet calculations but did observe that the CZ2010 weather dataset is used as well as the revised DEER peak period definition.	**6.3**	Comprehensive response addressing most major points.
Metric 5	**6.3**	The PA's collaboration with CPUC Staff needs improvement at both the technical and program implementation levels.	**3.1**	Neglected to follow previous guidance on measure eligibility for compressed air projects. There seems to be continuing misunderstanding about the 2014 Statewide Compassed Air Guidelines.

	96	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**2.5**	The initial documentation upload was performed in a timely manner
Metric 2	**3.8**	The documentation is reasonably clear and comprehensive, however the PA incorrectly combined several measures together into a single measure designated as "Compressed Air System Optimization" ER measure type, 5 year EUL. CPUC Staff required that the measures must be segregated into their appropriate measure types and their baselines
Metric 3	**NA**	NA
Metric 4	**1.3**	The PA technical review missed several key issues with this project including the incorrect combination of several measures together into a single measure, the fact that the implementer did not sign a project agreement with the customer until after the customer's design was complete, and the incorrect designation of measure types.
Metric 5	**0.0**	The project was selected in July 2016 for ex ante review. The PA uploaded documents for the project on 7/5/2016. CPUC Staff had a conversation with the IOU regarding several compressed air projects selected for review. The IOU was directed to examine all compressed air projects for compliance with the 2014 Statewide Compressed Air standards and report back to staff. The IOU uploaded revised documents for this project on December 2, 2016. CPUC Staff understand the customer's frustration with the review process. It is unfortunate that similar to many projects previously reviewed by the EAR team, this project is well advanced and customer expectations have been set by the implementer and IOU. For all future projects, the PA must make a more diligent effort to perform eligibility review in the early stages of project development to avoid this situation. The issues described in Metric 4 have been discussed previously with the PA. CPUC Staff are disappointed that the PA is unable to incorporate previous guidance into current projects.

	100		142	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**5.0**	PA uploaded initial project documentation within a reasonable timeframe.	**5.0**	Uploaded documents in less than 2 weeks after selection.
Metric 2	**15.0**	The PA reply was responsive to the issues identified in the first disposition.	**7.5**	Reasonably complete documents. Neglected to follow previous guidance on true power measurements for compressed air projects.
Metric 3	**N/A**	This metric is scored during the final annual ESPI review for overall activities and not just on a single project basis. This project did not entail any issue that the PA should have brought to CPUC Staff attention for proactive collaboration.	**NA**	NA
Metric 4	**9.4**	Issues identified in the first disposition were adequately addressed. CPUC Staff disagrees with the technical reviewer contractor follow-up with the CEC hot line regarding water side economizers. Nonetheless, the PA identified that there are air side economizers installed.	**6.3**	Acceptable review effort addressing most major points.
Metric 5	**6.3**	PA transparency and collaboration with CPUC Staff needs improvement.	**6.25**	No major issues identified for this project.

	167	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**5.0**	The PA responded in a timely fashion to the first EAR.
Metric 2	**6.0**	The submittals were acceptably complete but there are sloppy copy and paste errors regarding pump VFDs which were also identified for project 0091, repeated here.
Metric 3	**NA**	NA
Metric 4	**6.3**	Errors noted in the project description.
Metric 5	**0**	Past CPUC EM&V interactions with customers in this industry has revealed that customers replace a significant percentage of pumps after failure. In order to maintain the production level and facility operations, pumps of various capacities are kept in inventory so that failed equipment can be quickly replaced. The application presented by the IOU seems to fall in the category of stocking replacement inventory since the IOU is not able to identify exactly which pumps are proposed to be replaced by this project and only states that "those with the lowest efficiency will be replaced". CPUC Staff do not find any evidence that providing ratepayer funding for this activity has a meaningful effect on the customer's decision processes. CPUC Staff find little evidence of program influence and the NTG for this measure must be set to zero.

	173	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**5.0**	The project documentation was uploaded to the CMPA in a timely manner.
Metric 2	**7.5**	The documentation is complete and the measure is well explained. The main deficiencies are the poorly documented M&V plan and calculation methodology.
Metric 3		NA
Metric 4	**6.3**	CPUC Staff have found that the PA's M&V efforts for this project exhibit a lack of critical thought and planning. The purpose of M&V is to reduce the uncertainty of the savings impact analysis and increase the reliability of the savings estimates. The PA failed to identify the critical uncertain factors for this project and design an M&V plan to reduce or eliminate the uncertainty associated with those factors. Projects must not be approved to proceed to implementation until a well-conceived M&V plan has been designed, documented, reviewed and approved. The PA reviewers must be diligent in reviewing the implementer's projects and ensure that all reasonable efforts are made to increase the reliability of the savings estimates.
Metric 5	**6.3**	According to the project documentation the "...savings calculations are based on the energy savings from the constant volume baseline system that [CUSTOMER NAME] would have installed." The PA has provided no evidence that the customer has planned to install the constant volume baseline system. Unsupported statements have no weight as a preponderance of evidence of program influence and baseline.

	72		43	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**5.0**	Project disclosed on time	**4.0**	The initial submission of a modified approach took a long time to be submitted, however, the proposed resolution of the customer portion of the approach was submitted in a very timely manner.
Metric 2	**6.0**	2nd submittal included only partial information in support of program influence	**12.0**	Although staff did not agree with the detail of the approach modified approach to the savings estimate, the work done by SCE was complete.
Metric 3	**n/a**		**5.0**	SCE, during 2017, has been very pro-active in initiating collaboration on this project.
Metric 4	**5.0**	PA attempted to provide additional P/I support, but did not consider information that may provide evidence against P/I.	**10.0**	SCE has strived to resolve the remaining disagreements on this project to a close by taking more control over the proposed estimation methods. The implementer was not helpful, so SCE took a lead role. Although staff was not in agreement with the detail of the submission the work and approach used was a noticeable improvement over previous submissions for this project.
Metric 5	**9.0**	PA is attempting to respond to requirements for additional supporting P/I info as well as follow DEER assumptions. PA agrees to follow DEER methods, but has not submitted calcs yet pending approval of project reinstatement.	**6.3**	This project bring into focus, once again, the need to re-examine 3P contract terms and condition. Although this project has offered an opportunity for internal examination of this issue SCE has taken no step on the issue. However, SCE review staff has requested assistance in this area from staff by actively discussing staff disposition direction that can take step mitigate some of the issues while longer term contract actions are considered.

	159	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**4.0**	SCE notified of project review on 12/19/2016. SCE uploaded project files on 1/10/2017.
Metric 2	**6.0**	Enough information submitted to review project. However, calculations approaches do not follow DEER methods which require the use of DEER building type assumptions for lighting measures including operating hours. While operating hours assumptions were rejected, logger results submitted still did not support claim of 8,760 operating hours. It appears the current implementer was substituted in for another implementer who had proposes nearly an identical upgrade several months earlier at a much lower cost to the PA/ratepayers.
Metric 3	**n/a**	
Metric 4	**3.0**	PA review appears superficial and did not correct or request more information on critical issues such as program influence, calculation methods and supporting data for non-DEER assumptions.
Metric 5	**3.0**	The PA review was superficial, missing critical issues. Important direction to utilize DEER methods was not incorporated.

	160		175	
Metric	**SCORE**	**CPUC Staff Specific Comments on Each Metric**	**SCORE**	**CPUC Staff Specific Comments on Each Metric**
Metric 1	**4.0**	SCE notified of project review on 12/19/2016. SCE uploaded project files on 1/10/2017.	**3.8**	The PA uploaded the first submittal for this project 24 days after being notified of the project selection.
Metric 2	**6.0**	Substantial information submitted to review project. However, calculations approaches do not follow DEER methods which require the use of DEER building type assumptions for lighting measures including operating hours. While operating hours assumptions were rejected, the EAR team could not locate logger data to support the claim of 8,760 annual operating hours in the project documents.	**15.0**	The project feasibility studies presented by SCE and SCG were very thorough provide a good description of the existing and proposed systems for this complex industrial project.
Metric 3	**n/a**		**NA**	NA
Metric 4	**3.0**	PA review appears superficial and did not correct or request more information on critical issues such as program influence, calculation methods and supporting data for non-DEER assumptions.	**9.4**	The M&V plan does not seem to be very well thought out.
Metric 5	**3.0**	The PA review was superficial, missing critical issues. Important direction to utilize DEER methods was not incorporated.	**9.4**	The documentation provided for this project is very thorough and detailed for this complex industrial process. The M&V plan is not well conceived, and staff are disappointed that the PA did not discuss the implementation of this project much earlier in the project development.

Attachment C: Workpaper Scores and Feedback

The table below lists the ID numbers associated with each workpaper submission or disposition and the workpaper review process "score enhancements" scoring area. The listed weight is used in the combining all the individual rows together into a single score for all the rows in the two scoring components ("direct review" and "process issues"); then each category total score gets equal weighting in the final total score for the metric. The PA may refer to the individual dispositions for more detailed descriptions of the specific actions staff required for each workpaper. The qualitative ESPI scoring feedbacks are designated as follows:

'+' indicates a positive (from midpoint) scoring impact on a metric,
'-' indicates a negative (from midpoint) scoring impact on a metric,
'Yes' indicates meeting expectation; neutral (midpoint) scoring impact on a metric,
'No' indicates the review feedback is not applicable to a metric.

Workpaper Detailed Reviews

WP ID	Rev	Title	Comments	Weight	1	2	3	4	5
SCE17PR008	0	Process Fan VSD	SCE followed direction of the Phase 1 disposition. They updated the workpaper to include interim allowed values. In May, SCE emailed information to support a market assessment and the workpaper measure savings calculations in accordance with the disposition. However, the submitted information failed to demonstrate that this technology is consistent enough to be considered a deemed measure. This detailed review illustrated issues with SCE's internal QC process regarding both the market assessment (e.g. whether the measure was able to be applied to the type of fans applicable to this workpaper) and the energy savings calculation (e.g. whether the values assumed to apply to the measure were correct).	0.5	no	-	no	-	no
SCE17PR008	1	Process Fan VSD		0.5	no	-	no	-	no
SCE17WP009	0	Residential Variable Speed Spa and Wading Pool Pump	SCE selectively followed direction in the Phase 1 disposition. SCE did not update the VSD swimming pool pump workpaper for 2017; instead, they made changes for 2018. In the revised workpaper, they stated that outdated technology (single speed pool pumps) are considered the baseline for multi-family building types which incorrectly inflates the measure energy savings. Additionally, SCE developed down-stream delivery types for measures that are specifically disallowed in the Phase 1 disposition. SCE did not reach out to commission staff to discuss these issues during 2017. Instead, commission staff was made aware of them when we reviewed PG&E's workpaper that adopted SCE's 2018 modifications.	0.25	no	-	no	-	-
SCE17WP001	3	Residential Variable Speed Swimming Pool Pump		0.75	-	-	-	-	-

SCE17LG017	0	Interior Integral, Non-Dimmable (Screw-in) CFLs	SCE followed direction of the Phase 1 disposition and submitted revised workpapers in a timely fashion. Furthermore SCE collaborated with PG&E, the EAR team and CPUC staff to identify differences in measure definitions between PG&E and SCE workpapers so that measure and cost data for each workpaper were properly represented in the ex ante database.	0.25	+	yes	no	no	no
SCE17LG072	0	Upstream Interior 3-way CFLs		0.25	+	yes	no	no	no
SCE17LG133	0	LED A-Lamp		0.25	+	yes	no	no	no
SCE13LG109	0	Exterior LED Lamp Replacement		0.25	+	yes	no	no	no
SCE17LG114	0	Exterior LED Luminaire with Integrated Occupancy Sensor	These workpapers were developed by a consultant to SCE. The detailed review noted that there were inconsistent methods applied to each workpaper to estimate the reduced hours of use for each application. Where the code required motion sensing controls, the workpaper assumed the lowest reduction in operating hours, which kept the overall operating hours as high as possible, increasing the savings. Where the code did not require motions sensors, and the motion sensor was part of the measure, the workpaper assumed greater reduction of operating hours due to motion sensors, maximizing the savings of the measure. The EAR team directed SCE to assume the same operating hours when motion sensors were included. SCE agreed with the EAR team review and revised the workpapers. However, the EAR team notes that this error should have been corrected by SCE staff before the workpapers were submitted.	1	+	yes	no	-	yes
SCE17LG120	0	LED Exterior Light Fixture with Motion Sensor Between 15 to <24 ft.		1	+	yes	no	-	yes

Workpaper Preliminary Reviews

WP ID	Rev	Title	Comments	Weight	1	2	3	4	5
SCE17WH001	0	Heat Pump Water Heaters	SCE submitted this 2018 workpaper in a timely fashion. The EAR team observed some inconsistencies in ex ante data and values and returned a preliminary review pointing SCE to the required DEER measure names and savings values. SCE resubmitted the workpaper in a timely fashion and CPUC staff waived review of the revised workpaper.	0.5	+	Yes	no	-	Yes
SCE17LG127	1	LED PAR Lamps	SCE submitted revised workpapers in a timely fashion, following the finali Phase 1 review issued on May 26, 2017. The EAR team observed some inconsistencies in ex ante data and values, but these were resolved through the regular workpaper meetings with SCE.	0.2	+	no	no	no	yes
SCE17LG131	1	LED BR-R Lamps		0.2	+	no	no	no	yes
SCE17LG133	1	LED A-Lamps		0.2	+	no	no	no	yes

Other Direction

WP ID	Rev	Description	Comments	Weight	1	2	3	4	5
SCE17HC054	0	Smart Thermostats	Although Smart Thermostats are rapidly being adopted throughout the country without support from utility incentive programs, SCE supported a workpaper that adopted proprietary savings estimates and paid down the retail price by upwards of 20%. The workpaper assumptions included discounting the homeowner's ability to modify the energy efficiency savings and allowing the corporation to deem energy savings using their proprietary system. SCE did not require the manufacturer to provide the data supporting the calculation. Additionally, the manufacturer is not required to use the technology to gather data that is needed to evaluate their own engineering calculations and obtain actual savings information. We find that SCE response to the 2016 detailed review was not genuine, rigorous, or transparent.	1	-	-	-	no	-
Various		Package HVAC Workpapers	Since 2015, CPUC staff has directed SCE to develop processes and due diligence to properly identify contractor influenced accelerated replacements of package HVAC equipment. Furthermore, at the end of 2016, the EAR team reviewed claims for package HVAC measures and compared them against SCE's own records for AR measures and identified the following problems: 1) SCE's records submitted to the EAR team showed much higher savings than what was shown in claims for 2016 and 2) there were many inconsistencies between the two-code and above code portions. For example, it was common for the building type, climate zone or unit capacity to be different for the to-code portion compared to the above-code portion. The EAR team is not aware of any additional work carried out by SCE in 2017 to address these issues.	1	-	-	-	-	-
Various		Exterior Lighting Workpapers	For both custom and deemed exterior lighting measures, the EAR team and CPUC staff have noted a concern that standard practice for exterior lighting is rapidly shifting to LED technologies. In the original 2017 Phase 1 disposition, CPUC staff directed the PAs to carry out an ISP study for exterior lighting. At this time, SCE has not proposed any updates to their baselines and has instead deferred to expected CPUC staff on PG&E's recent baseline proposal that includes a significant fraction of LEDs. In contrast to PG&E, who proposed a revised baseline, SCE noted in their 2018 workpaper plan that they would "carry over" 2017 exterior lighting workpapers into 2018.	1	-	yes	-	no	-

Process Adders										
	1	Updates to Unreviewed Workpapers Based on Other Reviews: Initiative of the PA to examine previous workpaper preliminary reviews or dispositions and use that information to identify and update other workpapers that may have similar issues.	SCE regularly submits workpaper updates; however, preliminary and detailed reviews discussed above summarize all of the CPUC staff review activity. Therefore, CPUC staff has assigned a neutral score here.	1	+	yes	yes	yes	yes
	2	Responsiveness to Previous Direction: Efforts to update workpapers where previous direction has been provided, such as through decisions or through CPUC staff direction	As discussed in specific workpaper topics above, SCE has been slow to respond to previous direction such as for exterior lighting baselines, upstream package HVAC PoE processes and food service ISP. There are some areas where SCE has taken initiative to respond to previous direction such as updating annual operating hours for exterior street and area lighting.	1	-	yes	yes	yes	-
	3	Consideration of Standard Practice and/or Code Baselines: Efforts to research typical standard practice or code baseline where it may not be well understood. For example: What are most common applications for program VRF and mini-/multi-split HVAC systems?	SCE has provided information to CPUC staff documenting the progress of their research into standard practice baselines for food service equipment and exterior lighting. However, CPUC staff notes elsewhere in the ESPI scoring discussions that SCE, as have all PAs, been slow to start this research and have not produced any final research products to date. Additionally, CPUC staff also point out the general approach on most measures is to assume that the NR and ISP baselines are the very worst technology, equipment or system allowed by the code at the time the technology, equipment of system fails past the point of being repairable.	1	-	yes	+	no	-

	4	Data Gaps in Best Available Information: Appropriateness and adequacy of data to support savings calculations, cost or net-to-gross assumptions. For example, when energy use information about the baseline technology is not readily available, the PA should perform additional research beyond seeking opinions of a limited group of individuals.	As a positive, SCE worked with CPUC staff to develop revisions to DEER chiller measures that reflected the availability of units and their respective full-load and part-load efficiency values. On the other hand, all PAs are still inclined to propose estimating savings above the worst performing, code minimum, units even if those units do not appear to be available in the market place. Furthermore, there appears have been little effort to investigate program influence of high efficiency chillers other than to survey manufacturers' representatives. Another positive note, while not directly related to workpapers, is SCE's efforts to extend deemed ex ante requirements for lighting to their custom programs.	1	yes	yes	no	-	+
	5	Consistency with CPUC Policy and Existing Body of Decision Language: Ex ante values must be developed in a manner that is consistent with existing CPUC policy and all applicable decision language.	CPUC staff remains concerned that normal replacement (NR) measures are not properly considered the likely replacement technology when a user decides to replace that technology, equipment or system outside of any PA efficiency program. The predominate approach for most workpapers appears to be to select as the baseline the very worst technology, equipment or system that could legally be installed should that technology, equipment or system fail at a level where the only option is to replace it with something new. Many lighting measures are still defined this way. One example is SCE's program to transfer ownership of a large number of streetlights from SCE to the municipalities. SCE's proposal was to claim all measures as NR, however, it was clear from the proposal that most, if not all, of the fixtures were fully operational, which indicates that these measures were likely accelerated replacement (AR) measures requiring a dual baseline approach where the second baseline represented ISP.	1	no	no	-	no	-
	6	Completeness of narrative on initial review: On first review, a workpaper should include enough descriptive information so that both the delivery approach, the ex ante values, and the relationships between the two are	CPUC staff is particularly concerned about documentation covering the smart thermostat savings development, where savings are based on proprietary methods developed and proposed by a single product manufacturer. For most workpapers, SCE includes adequate documentation so that CPUC staff can complete preliminary and detailed reviews.	1	+	yes	-	yes	yes

	understood by the EAR team and CPUC staff.	

Attachment D: 2017 Ex Ante Review Annual Ratings

Custom Scoring

2017 Annual Custom Ratings		Metric 1	Metric 2	Metric 3	Metric 4	Metric 5	
Direct Workproduct Review Score	Dispositions Score	4.56	3.08	5.00	2.22	1.77	
Review Process Score Enhancements	Technical & Policy QC Increase	1.00	0.50	1.00	1.00	2.50	
	Implementation Increase	0.00	0.00	0.00	0.00	0.00	
Total Score	Final Metric Score (1-5)	5.00	3.59	5.00	3.23	4.28	Total Points
	Metric points	5.00	10.77	5.00	8.08	10.70	39.55

2016 Annual Custom Ratings		Metric 1	Metric 2	Metric 3	Metric 4	Metric 5	
Direct Workproduct Review Score	Dispositions Score	2.19	0.97	0.00	0.40	1.10	
Review Process Score Enhancements	Technical & Policy QC Increase	0.00	1.00	1.50	2.00	1.50	
	Implementation Increase	0.00	0.00	1.00	0.00	0.00	
Total Score	Final Metric Score (1-5)	2.19	1.97	2.50	2.40	2.60	Total Points
	Metric points	2.19	5.91	2.50	6.00	6.50	23.10

Workpaper Scoring

2017 Annual Workpaper Ratings		Metric 1	Metric 2	Metric 3	Metric 4	Metric 5	
Direct Workproduct Review Score	SCE "-"	40%	42%	79%	100%	62%	
	SCE "+"	55%	0%	0%	0%	0%	
	SCE "Yes"	5%	58%	21%	0%	38%	
	Dispositions Score %	**57%**	**29%**	**11%**	**0%**	**19%**	
	Dispositions Score	**2.87**	**1.45**	**0.53**	**0.00**	**0.96**	
Review Process Score Enhancements	SCE "-"	40%	0%	40%	25%	50%	
	SCE "+"	40%	0%	20%	0%	17%	
	SCE "Yes"	20%	100%	40%	75%	33%	
	Process Score %	**50%**	**50%**	**40%**	**38%**	**33%**	
	Process Increase Score	**2.50**	**2.50**	**2.00**	**1.88**	**1.67**	
	Process Increase Weight	**0.50**	**0.50**	**0.50**	**0.50**	**0.50**	
Total Score	**Final Metric Score (1-5)**	**4.12**	**2.70**	**1.53**	**0.94**	**1.80**	**Total Points**
	Metric points	**4.12**	**8.10**	**1.53**	**2.35**	**4.49**	**20.59**

2016 Annual Workpaper Ratings		Metric 1	Metric 2	Metric 3	Metric 4	Metric 5	
Direct Workproduct Review Score	SCE "-"	23%	57%	45%	58%	33%	
	SCE "+"	33%	0%	18%	0%	0%	
	SCE "Yes"	44%	43%	36%	42%	67%	
	Dispositions Score %	**55%**	**21%**	**36%**	**21%**	**33%**	
	Dispositions Score	**2.75**	**1.08**	**1.82**	**1.05**	**1.67**	
Review Process Score Enhancements	SCE "-"	0%	63%	63%	63%	25%	
	SCE "+"	20%	0%	0%	0%	0%	
	SCE "Yes"	80%	38%	38%	38%	75%	
	Process Score %	**60%**	**19%**	**19%**	**19%**	**38%**	
	Process Increase Score	**3.00**	**0.94**	**0.94**	**0.94**	**1.88**	
	Process Increase Weight	**0.50**	**0.50**	**0.50**	**0.50**	**0.50**	
Total Score	**Final Metric Score (1-5)**	**4.25**	**1.55**	**2.29**	**1.52**	**2.61**	**Total Points**
	Metric points	**4.25**	**4.65**	**2.29**	**3.80**	**6.53**	**21.52**

Explanations of scoring tables row entries

1. The row labeled with *IOU "-"* lists the percent of workpaper reviews undertaken where the Commission staff evaluation of the materials or information indicated that the IOU performance in this metric for the submission did not meet minimum expectations or requirements relative to the metric.
2. The row labeled with *IOU "+"* lists the percent of workpaper reviews undertaken where the Commission staff evaluation of the materials or information indicated that the IOU performance in this metric for the submission exceeded minimum expectations or requirements relative to the metric.
3. The rows labeled with *IOU "Yes"* lists the percent of workpaper reviews undertaken where the Commission staff evaluation of the materials or information indicated that the IOU performance in this metric for the submission exceeded met minimum expectations or requirements relative to the metric.
4. The "Dispositions Score %" row (and "Process Increase Score" for workpapers) indicates how the combination of the three rows of scores (+, -, and yes) sum into a total points multiplier for each metric. Each row contributes to the total based on the row count over the total count for all three rows.
5. The "Disposition Score" (and "Process Increase Score" for workpapers) row converts the % score into a numeric value of up to five by directly applying the % to a value of 5.
6. The custom row labeled with "*Technical & Policy QC Increase"* lists Commission staff points added to the metric based on an evaluation of the overall IOU performance in putting into place quality assurance and/or quality control methods, documents and/or training for staff and contractors related to this metric area that are expected to improve the ability of review personnel to identify and cure issues going forward on projects started during 2016 but not yet seen in the custom review activity.
7. The custom row labeled with "*Implementation Increase"* lists Commission staff points added to the metric based on an evaluation of the overall IOU performance in putting into place new or changed program rules, eligibility criteria, incentive structures, application and implementation contract processes and procedures in 2016 related to this metric area that are expected to improve performance going forward on projects started but not yet seen in the custom review activity.
8. The workpaper rows labeled with "*Review Process Score Enhancements"* lists Commission staff scoring for each metric based on an evaluation of the overall IOU performance in putting into place quality assurance and/or quality control methods, documents and/or training for staff and contractors that are expected to improve the ability of review personnel to identify and cure issues going forward on workpapers. This score is weighted as an increase to the disposition score based on the fractional weight listed in the "Process Increase Weight" row.
9. The "Final Metric Score" row indicates the total score for each metric as a sum of the Direct Work product Review Score plus the Review Process Score Enhancements (either as a simple sum for custom or a weighted value sum for workpapers) to provide a final metric score with the final score constrained between a maximum score of 5 and a minimum score of 1.
10. The "Metric Points" row provides the point value derived from the Final Metric Score row. If the maximum point value associated with a metric is greater than 5 then the score is multiplied by the max point value divided by 5 to obtain the metric point value related to the final score.