

## CPUC Staff Ex Ante Review

CPUC Staff Project ID Number	PGE_22_T_A_770_PRJ - 03711208_Lighting
CMPA Directory Link	<a href="https://deeresources.info/cmpa/projects/20363">https://deeresources.info/cmpa/projects/20363</a>
PA	PGE
PA Application ID	PRJ - 03711208
PA Application Executed Date	
PA Program ID	PGE_Ag_001
PA Program Name	TRC - Agricultural Energy Savings Action Plan AESAP Ag - Customized Retrofit
PA Program Year	
Date of CPUC Staff Review:	7/7/2022
PA CMPA Upload Dates Included in this review:	
First PA Upload	5/31/2022
Second PA Upload	N/A
Third PA Upload	N/A
Fourth PA Upload	
Fifth PA Upload	
Sixth PA Upload	
Seventh PA Upload	
Eighth PA Upload	
PA Measure Description(s):	
Measure 1	LIGHTING RETROFITNEW-INT LED HORTICULTURAL
Measure 2	
Measure 3	
Measure 4	
Measure 5	
Measure 6	
Measure 7	
Measure 8	
Measure 9	
Measure 10	
PA Project Description:	This project proposes to replace flowering HPS and vegetative CMH lighting with horticultural LED fixtures in 7 cannabis production rooms. This is an accelerated replacement AR project and the applicable measure solution code is CLA21. This is an accelerated replacement AR project and the applicable measure solution code is CLA21.
Bi-Monthly Upload kW Demand Reduction	0.0
Bi-Monthly Upload Annual kWh Impacts	567,177.0
Bi-Monthly Upload Therm Impacts	0.0
PA Proposed Incentive \$ (to Customer)	\$54,591.72
Project Documentation kW Demand Reduction	0.0
Project Documentation Annual kWh Impacts	567,177.0
Project Documentation Annual Therm Impacts	0.0
Project Documentation Incentive \$ (to Customer)	54,591.7
CPUC Staff Primary Reviewer Name	
CPUC Staff Primary Reviewer Firm	Quantum Energy Analytics
CPUC Staff Review Supervisor Name	
CPUC Staff Review Supervisor Firm	Quantum Energy Analytics
PA Primary Reviewer Name	
PA Primary Reviewer Firm	
CPUC Staff Project Manager	
CPUC Staff Policy Authorization (as needed)	
CPUC Staff Recommendation:	Application rejected.
For rejection, action required:	Complete Resubmittal Required (SB1131 timeline reset)
M&V Review:	Post M&V Review NOT Required

Action Number:	Summary of CPUC Staff Required Action by the PA:	Action Category	PA Response	ED Resolution
1	The PA did not follow the appropriate steps as directed by CPUC resolution E-4939 and prior dispositions to establish the correct customer standard practice baseline. It is not clear why LEDs were not considered to be the standard practice baseline for this customer.	Baseline		
2	The PA used an outdated custom ISP (Industry Standard Practice) study that was developed for prior cannabis lighting retrofit projects. In our prior dispositions, we have listed reasons why this custom ISP study should not be used to establish the standard practice baseline for cannabis lighting projects. The PA has disregarded this feedback.	Baseline		
3	The PA estimated savings using a baseline quantity that is higher than the actual existing fixture quantity. This resulted in a baseline lighting usage that is higher than the actual usage and overestimation of lighting and HVAC interactive savings.	Baseline		

4	<p>The PA used a calculator (i.e., Grow Green calculator) that does not accurately estimate savings for cannabis grow lighting projects. CPUC staff has issued several dispositions asking the PA to update the calculator, but the PA has disregarded this request. The PA is required to update the Grow Green calculator to address the following issues.</p> <p>1) The Grow Green calculator is currently using standard practice baseline efficacy values that are based on a very limited number of high intensity discharge (HID) lighting fixtures. These few fixtures do not correctly account for products that are available to be purchased in the California market and are commonly used by growers. We are requesting the PA to perform additional research to identify the appropriate lighting technology mix for growing cannabis in California, and the appropriate baseline efficacy values associated with this technology mix.</p> <p>2) The PA is required to define a minimum efficacy for LED cannabis grow products based on LEDs that are available to growers in the California market, using the approach that is consistent with setting the minimum requirements for general LED lighting projects (i.e., MLC and lighting workpapers). The installed LED fixture should meet this minimum requirement.</p> <p>3) The tool has embedded assumptions for the unit cost of energy (\$/kWh, \$/kW and \$/therm) that are not trued up until after project is fully installed and operational (i.e., post-installation stage). Given project cost savings are directly tied to program influence and the customer decision making for most cannabis lighting projects, the PA is required to perform additional research to make sure these assumptions are accurate.</p> <p>4) The tool estimates HVAC interactive effects based on oversimplified assumptions that is not consistent with how HVAC interactive effects are estimated for other custom projects and/or deemed measures. If interactive effect savings are included in the project scope, a whole building modeling approach (similar to the DEER approach) should be used to accurately estimate HVAC interactive impacts.</p>	Calculation method		
5	<p>The PA did not correctly estimate the incremental costs (IMC) for this project. The PA calculated IMC as a simple difference between total initial cost of purchasing LEDs and total initial cost of purchasing HID fixtures. This is not an appropriate comparison because HID grow lights must be replaced as often as 6 months to a year while LEDs last much longer. In addition to this, the PA compared the bulk price of purchasing LEDs (from the contractor quote) to the unit price of purchasing HIDs (from a web research). This is not an appropriate comparison. In our prior lighting dispositions, we have provided guidance on using comparable sources for estimating the cost. Note that according to the PA, the cost is the primary decision-making driver for most cannabis lighting projects (including this project).</p>	Measure cost		
6	<p>The PA did not correctly estimate project cost savings. The PA used the Grow Green calculator assumption of \$0.14/kWh to estimate project costs savings and payback. The provided utility bill shows that the customer pays about \$0.19/kWh for electricity.</p>	Analysis assumptions		
7	<p>The PA did not correctly estimate the measure life. The PA estimated the effective useful life (EUL) of the project by simply dividing 50,000 hours of lifetime for non-horticultural LED by the facility operating hours. This is not appropriate because the non-horticultural LED fixtures use the L70 measurement (hours a fixture will maintain 70% of the total original lumen output) but the horticultural lighting uses either the L90 or Q90 measurement (the number of hours a fixture can maintain 90% of its original output). This should be used as the basis for the EUL of horticultural LED lighting. This is also applicable to the measure life of non-LED horticultural lighting. This issue should be addressed in the Grow Green calculator rated life assumptions as well.</p>	EUL/RUL		

Note or Instruction Number:	CPUC Staff Notes or Instructions:	Instruction Category	PA Response	ED Resolution
1	The PA did not provide convincing evidence to show that installation of LEDs more likely than not resulted from the program for this phase of the project. The customer has already replaced some HIDs with LEDs in phase 1 of this project, received incentives for phase 1 replacements, and is happy with the LED performance. The customer has reliability concerns and LEDs extended life will minimize that. Even with incentive, the project payback is outside of customer preferred payback threshold. Also, given the proposed lighting system provides a much higher PPF than the existing system, it appears that the existing system was unable to provide the required level of service and therefore a replacement was needed.	Program influence		

CPUC Staff Recommendation Definitions	
CPUC Staff Recommendation	Definition
Application ready to proceed without exception	The PA will continue to upload application documents to the CMPA directory through the implementation and claims phases of the project. The PA may proceed to approve the project without waiting for CPUC Staff response. A project is waived from further review at the post-installation stage by CPUC staff, but the PA is responsible for post-installation (IR) review. There will not be conditional approval.
Application ready to proceed with exception(s), as noted	<p>The PA must make revisions or changes as noted in CPUC Staff's review comments before signed agreement with customer. The PA will continue to upload application documents to the CMPA directory through the implementation and claims phases of the project. The PA may proceed to approve the project without waiting for CPUC Staff response. If CPUC Staff decides to perform IR review of a project, CPUC Staff will notify the PA. The scope will be limited to determine if the project was carried out consistent with the application and notes provided during pre-installation review and to obtain information pertaining to whether the eligibility criteria or metrics should be revised.</p> <p>Unless the scope of work presented in project application has changed at IR review, the project will not be reviewed again in the areas specified below. Scope change is defined by substantial changes include significant modifications to the proposed equipment type, size, quantity, configuration, the expansion of a project to include additional retrofits, or the splitting of a project into multiple phases.</p> <p>The following areas will not be reviewed again by CPUC Staff:</p> <ul style="list-style-type: none"> <li>• Calculation Tool</li> <li>• Calculation Methodology</li> <li>• M&amp;V Plan</li> <li>• Baseline</li> <li>• Eligibility</li> <li>• EUL/RUL</li> <li>• Measure Type</li> <li>• Program Influence</li> </ul>
Application rejected.	<p>The application is rejected as submitted. The PA shall promptly inform the applicant as to the reasons why the project was rejected and the specific recommendations for the conditions under which the project would be approved. CPUC Staff shall provide the reasons for the rejection or request for modification, including each basis as to why the project is rejected, or modification is requested. In addition, CPUC Staff shall provide specific recommendations for the conditions under which the project would be approved.</p> <p>If any party to the project is unsatisfied with the Commission's directions for the project, a dispute resolution process may be initiated by that party. The Commission shall adopt rules for the conduct of the dispute resolution process. – Section 381.2 (g) (3) (F)</p>
Advisory.	The PA is not formally required to follow instructions or recommendations given in an Advisory review. However, issues found will affect ESPI scoring and may come up again in Ex-Post review.