CPUC Staff Ex Ante Review

CPUC Staff Project ID Number	PGE_23_C_C_851_Site Specific Comprehensive - 45615_NMEC
CMPA Directory Link	https://deeresources.info/cmpa/projects/20793
PA	PGE
PA Application ID	Site Specific Comprehensive - 45615
PA Application Executed Date	
PA Program ID	COWBKWSL20
PA Program Name	kW Engineering - Smart Labs Com - Whole Building
PA Program Year	
Date of CPUC Staff Review:	4/14/2023
PA CMPA Upload Dates Included in this review:	
First PA Upload	1/30/2023
Second PA Upload	3/1/2023
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	NMEC Whole Building
Measure 2	
Measure 3	
Measure 4	
Measure 5	
Measure 6	
Measure 7	
Measure 8	
Measure 9	
Measure 10	
PA Project Description:	This project consists of a BRO-RCx measure at a commercial research facility [redacted]
Bi-Monthly Upload kW Demand Reduction	0.0
Bi-Monthly Upload Annual kWh Impacts	3,775,588.0
Bi-Monthly Upload Therm Impacts	316,900.0
PA Proposed Incentive $ (to Customer)	$523,009.00
Project Documentation kW Demand Reduction	0.0
Project Documentation Annual kWh Impacts	3,775,588.0
Project Documentation Annual Therm Impacts	316,900.0
Project Documentation Incentive $ (to Customer)	$536,009.00
CPUC Staff Primary Reviewer Name	[redacted]
CPUC Staff Primary Reviewer Firm	DNV
CPUC Staff Review Supervisor Name	[redacted]
CPUC Staff Review Supervisor Firm	Quantum
PA Primary Reviewer Name	[redacted]
PA Primary Reviewer Firm	
CPUC Staff Project Manager	
CPUC Staff Policy Authorization (as needed)	
CPUC Staff Recommendation:	**Advisory**
For rejection, action required:	N/A
M&V Review:	Post M&V Review NOT Required

Action Number:	Summary of CPUC Staff Required Action by the PA:	Action Category	PA Response
1	**For future projects, please clearly identify proposed measures and their MAT (measure application type) assignments including a rationale for the MAT selection.** The scope of the project including the number of measures, measure descriptions, and MATs are not clearly laid out in the project files and vary across Project Feasibility Study (PFS) report, Quantitative Assessment (QA) report and Technical Review files. For example, the QA report discusses five different measures in Section 7 but does not provide any details regarding savings and MATs for each measure. The PFS report shows only one AOE measure under the Energy Efficiency Measures but does not provide a reason for selecting the AOE MAT. Other sections of the PFS mention BRO measures but they don't provide measure details and savings. The PA Technical Review does not add more clarity to this issue either. The Technical Review report starts by saying that the project consists of BRO-RCx measures at a commercial research facility. Then again under the measure details, it states that the project only has one AOE measure without explaining why AOE is the appropriate MAT. As of now, **we understand this project to only have one measure which involves adding glass panels to close the opening above the fume hoods in order to lower fume hoods minimum flow when the sashes are closed during occupied hours.**	Project scope unclear	
2	**Please update the MAT for lowering the fume hood minimum flow measure from AOE to BRO with an EUL of three years.** AOE measures are used for installing new equipment onto an existing host to improve the nominal efficiency of the host system. The appropriate MAT for this measure is BRO which includes activities that improve the inefficient operation of installed equipment.	Measure type	

3	From the QA report, it appears that the facility might not be operating per the Cal-OSHA (California Division of Occupational Safety and Health) and/or design requirements given: (1) some fume hoods are open above the ceiling tiles, (2) some fume hoods are operating with face velocity less than the required Cal-OSHA velocity, (3) some fume hood monitoring systems are not displaying accurate values, and (4) some spaces are not meeting the design pressure gradient requirements. Cal-OSHA's General Industry Safety Orders (GISO) section 5154.1, which covers "Ventilation Requirements for Laboratory-Type Hood Operations," does not specifically address fume hood enclosure requirements. However, GISO section 5154.1 does provide general guidance on ventilation requirements for laboratory-type hoods, which may apply to fume hood enclosure. Key points from GISO section 5154.1 related to fume hood ventilation are: a. Laboratory-type hoods should be designed and maintained to capture, contain, and exhaust hazardous substances generated within the hood, and prevent the escape of hazardous substances into the laboratory or adjacent areas. b. Laboratory-type hoods must be tested and certified at least annually, or whenever a change is made to the hood or its operation, by a qualified professional to ensure they are operating properly and effectively. c. Laboratory-type hoods must be operated at an appropriate face velocity, which is the average velocity of air entering the face of the hood. The face velocity should be adequate to maintain containment of hazardous substances and prevent their release into the laboratory. d. Laboratory-type hoods must be equipped with monitoring devices and/or alarm systems to alert users if the hood is not operating properly, such as when face velocity falls below the minimum required level. GISO section 5154.1 requires the need for effective containment of hazardous substances and proper operation of laboratory-type hoods to maintain safe ventilation in laboratory settings. The fact that some (quantity unclear) fume hoods at this facility were left open in the ceiling plenum suggests an OSHA-noncompliant operation. Section 5154.1, "the laboratory exhaust system shall provide an average face velocity of at least 100 feet per minute with a minimum of 70 fpm at any point." According to the QA report, the program test results indicate that five fume hoods did not have sufficient face velocities. The flow for fume hoods with average face velocities below 100 fpm may need to be increased to maintain compliance with the Cal-OSHA requirement. The same applies to Cal-OSHA requirement for the monitoring and alarm systems. According to Cal-OSHA, "hoods shall be equipped with a quantitative airflow monitor that continuously indicates whether air is flowing into the exhaust system during operation. The quantitative airflow monitor shall measure either the exact rate of inward airflow or the relative amount of inward airflow. The requirement for a quantitative airflow monitor may also be met by an airflow alarm system if the system provides an audible or visual alarm when the airflow decreases to less than 80% of the airflow required by subsection (c)." The program measured/tested face velocity was compared to the fume hood monitor readings and several fume hoods had readings that exceeded ±10% of measurements indicating the controls are not calibrated to the actual flow at that sash configuration. The monitored/displayed data are not accurate and unable to provide correct information to the operators to make potential adjustments to the airflow. Maintaining negative pressure is also typically used to control the direction of airflow and prevent the spread of hazardous substances from one area to another within the laboratory. According to the program test results, multiple labs exhibited a positive differential pressure for spaces expected to be operating at the design negative pressure and some labs were above the minimum negative pressurization (not negative enough). This suggests that these areas are not operating per OSHA and/or design requirements. In addition to all of the above-mentioned OSHA non-complaint operation, the program found that the building BMS reported values are different than actual measured values which suggests possible improper calibration of the BMS. We understand that the Smart Labs program focuses on mitigating risks associated with changing labs ventilation when they are over ventilated. However, **the program-targeted facilities are expected to be operating in compliance with the applicable regulations, and adjustments necessary to reduce energy wasting operation while complying with the applicable regulations would qualify for incentives. That is, after the facility operation is complaint with all mandatory OSHA and other regulatory requirements, updates to the operation of the ventilation system in order to optimize the flow would be a valid BRO measure. This means that the project would need to be re-baselined after OSHA requirements are met and the BMS is calibrated.**	Baseline	
4	The project costs shows that glass panels are needed for 250 fume hoods (with $3,000 cost per fume hood). This is not consistent with the QA report indicating that only some of the fume hoods are open in the ceiling. Cost estimates for this project are based on some rough assumptions and not supported by contractor quotes. Given the incentives are capped at 50% of the project costs, it is important for the PA to estimate the cost accurately. **Please make sure final costs (and incentives) are adjusted based on the actual invoices which should be maintained with the project documentation.**	Measure cost	
5	**The PA should review and develop the standard practice for each measure. This should be done to ensure installations, at minimum, are up to- standard practice.** This should include review of all applicable 2022 Title 24 sections including requirements for sash control as well as the requirements for fan controls.	Did not follow previous CPUC guidance	

Note or Instruction Number:	CPUC Staff Notes or Instructions:	Instruction Category	PA Response
1	Incentive estimates differ between project files ($536,009) and the bi-monthly upload ($523,009).	Other 1	
2	Maintencane plan would be needed for BRO measures.	Missing required information	

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	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. 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. The following areas will not be reviewed again by CPUC Staff: • Calculation Tool • Calculation Methodology • M&V Plan • Baseline • Eligibility • EUL/RUL • Measure Type • Program Influence
Application rejected.	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. 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)
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.