

Phase 1 Ex Ante Review Findings

Table Error! No text of specified style in document.-1: Project Information

IOU	Pacific Gas & Electric
Application ID	2K1211087C
Application Date	Not available
Program ID	PGE21262
Program Name	UC/CSU Partnership
Program Year	2012
Itron Project ID	X205
IOU Ex Ante Savings Date	Not available
ED Measure Name	Smart Grid Demand Response HVAC Controls
Project Description	This control upgrade project at 15 buildings on a university campus has following measures: <ol style="list-style-type: none"> 1. Schedule HVAC setpoints 2. Minimize outside air percentage 3. Implement demand control ventilation 4. Implement occupancy sensor based control VAV boxes
Date of ED Review(s)	10/10/2012
Primary Reviewer and Firm	C.D. Nayak / DNV KEMA
Review Supervisor and Firm	Joseph Ball / Itron
Type of Review (Desk, On-site, Full M&V, Tool)	Desk Review
ED Recommendation	According to the program rules the proposed measures are eligible, but additional information are required on the project scope and savings calculations to complete the ex-ante review.

Measure Description

The control upgrade project is located at 15 buildings in a University Campus. It appears from the project documents that the existing pneumatic control systems at these buildings will be replaced with direct digital controls (DDC), which will enable added control measures on the existing HVAC equipment. The project scope says that the new control systems will also allow the buildings to participate in Automated Demand Response (ADR) with necessary software and hardware changes.

From the available documents, the project scope is not clear. There are about ■ buildings in the university campus, and similar retrofit measures are being implemented in these buildings progressively in different phases. Phase A and Phase B of this project are under implementation presently, and Phase C, which includes 15 buildings, is in this incentive application. The pre-installation inspection by IOU's technical review was completed on 9/14/2012, and it appears that only five out of 15 buildings were selected for pre-installation inspection. The following four measures have been described in the project document:

- Schedule HVAC setpoints
- Minimize outside air percentage
- Implement demand control ventilation
- Implement occupancy sensor based control VAV boxes

The project documents do not summarize the total claimed savings.

Summary of Review

Documents provided for review include the following:

- Spreadsheet based energy savings calculations
- E-mails describing the intended additions to the original scope of work
- Pre-installation inspection notes.
- A brief summary of the building schedule. However, the list does not include all the buildings included in this project

It appears from the available project documents that the customer wants to include some additional measures to the original project scope. These additional scopes are proposed in five buildings. It is not clear if they have been accepted in the final project scope.

From the measures listed in the project scope document, it appears to ED that some or all of them may be eligible for incentive application. However, as additional information are required

on the building, details of the HVAC equipment and control systems need to be clearly identified to properly determine if they are eligible under the incentive program guidelines.

One of the project documents (Project Scope.docx) suggests that the submitted claimed energy savings calculations are based on proprietary software of the campus consultant, and are difficult for review. Therefore, IOU's technical review has requested for a recreation of the original "live", unprotected savings calculations.

Review Conclusion

The measures proposed for this project are eligible under the program rules; hence the project is qualified to receive a comprehensive ex-ante review. However, additional information such as the final project scope, unlocked energy savings calculation spreadsheet and the details of measures along with existing system and operation details are required to complete the review for this project.

Summary of ED Requested Action by the IOU

In order to complete an ex ante review the ED recommends that the IOU submit the following documentation:

1. Provide final project scope including the details of the proposed measures
2. Provide non-hard coded unlocked final energy savings calculation spreadsheet for the proposed measures
3. Provide existing equipment operational details
4. Provide EULs of the proposed measures
5. Provide the operational details of the cogeneration system if the facility is using cogen electricity or cogen steam

Table 1-2: Project Overview

Description	IOU Proposed Ex Ante Data	ED Recommendations
Project Baseline Type (Early Replacement, Normal Replacement, Capacity Expansion, New Construction, System Optimization, Add-on Measures)	TBD	TBD
Project Cost Basis (Full Cost, Incremental Cost)	TBD	TBD
RUL (Early retirement projects only, otherwise N/A (not applicable))	TBD	TBD
EUL	TBD	TBD
First Year kWh Savings	TBD	TBD
First Year Peak kW Savings	TBD	TBD
First Year Therms Savings	TBD	TBD
kWh Savings (RUL Period)	TBD	TBD
Peak kW Savings (RUL Period)	TBD	TBD
Therms Impact (RUL Period)	TBD	TBD
kWh Savings (EUL thru RUL Period)	TBD	TBD
Peak kW Savings (EUL thru RUL Period)	TBD	TBD
Therms Savings (EUL thru RUL Period)	TBD	TBD
Annual Non-IOU Fuel Impact (RUL Period)	TBD	TBD
Annual Non-IOU Fuel Impact (EUL thru RUL Period)	TBD	TBD
Net-to-Gross Ratio	TBD	TBD

Table 1-3: Detailed Review Findings

Reviewed Parameter	Analysis
Project Gross Savings Baseline (for early retirement projects only, include RUL through EUL baseline)	IOU Proposal: TBD
	ED Assessment: TBD
	ED Recommendation: TBD
Project Cost Basis (for early retirement projects only, include RUL through EUL cost basis treatment)	IOU Proposal: TBD
	ED Assessment: TBD
	ED recommendation: TBD
RUL (required for early retirement projects only, otherwise n/a)	IOU Proposal: TBD
	ED Assessment: TBD
	ED recommendation: TBD
EUL	IOU Proposal: TBD
	ED Assessment: TBD
	ED Recommendation: TBD
Savings Assumptions	IOU Proposal: TBD
	ED Assessment: TBD
	ED Recommendation: TBD
Calculation Methods/Tool review	IOU Proposal: TBD
	ED Assessment: TBD
	ED Recommendation: TBD
Pre- or Post-Installation M&V Plan	IOU Proposal: TBD
	ED Assessment: TBD
	ED Recommendation: TBD
Net-to-Gross Review	IOU Proposal: TBD
	ED Assessment: TBD
	ED Recommendation: TBD