

Phase III Ex Ante Review Findings

Table 1-1: Project Information

IOU	PGE
Application ID	2K12134527
Application Date	12/14/12
Program ID	PGE21042
Program Name	Savings By Design (Customized Retrofit - Demand Response)
Program Year	2012
Itron Project ID	X263
IOU Ex Ante Savings Date	TBD
CPUC Staff Measure Name	UPS Retrofit
Project Description	Replace three (3) existing UPS modules with new, more efficient units
Date of CPUC Staff Review	Phase I: 2/19/13 Phase II: 4/26/13 Phase III: 1/31/14
Primary Reviewer / Firm	Phani Pagadala/Itron
Review Supervisor / Firm	Joseph Ball/Itron
CPUC Staff Project Manager	[REDACTED]
CPUC Staff Policy Authorization (as needed)	
Type of Review (Desk, On-site, Full M&V, Tool)	Desk
CPUC Staff Recommendation	<p>Savings and incentives are approved at the IR Review report approved levels.</p> <p>Note: It appears that co-gen gas is paying PPP charges but the ex ante review (EAR) team could not verify with certainty from IOU's response. The EAR team reiterates that CPUC policies require that fuel(s) being saved from implementing EE measures must be paying PPP charges and must have demonstrated impact on the grid. In the interest of time, the EAR team is not taking further verification steps and approves estimated electric and gas savings as final ex ante savings. In the future, for EE projects implemented at sites where self-generation is present IOU should maintain grid connection diagram, meter number and bills to facilitate verification of the grid impact and the PPP paying status.</p>

Measure Description

This project involves the replacement of three (3) of the five existing Liebert UPS units in a Tier 2 data center. The facility proposes to replace these units with new, more efficient units which will save electricity by operating more efficiently than the existing units.

Summary of Review

The CPUC EAR team has received and reviewed the IR Review documents. The IOU reviewers converted most of the kWh savings to equivalent therm savings because the facility uses a cogeneration plant to produce the majority of the electricity used on campus. A conversion factor of 10,100 therms/kWh based on the heat rate estimated by the facility personnel was utilized for this conversion.

Per the IR Review report, the facility personnel also estimated from trend data that the cogeneration plant operates 7,626 hours per year (87% of year) and that the facility purchases electricity from PG&E during the remaining 1,134 hours per year (13% of year). Therefore, the IOU reviewer converted 87% of the electric savings to equivalent gas savings and approved the remaining 13% of electric savings.

The EAR team had requested the IOU for an analysis of the co-gen grid effects that will quantify the portion of the energy savings that will have actual grid/pipeline impacts and has not received a complete response. However, in the interest of time, the EAR team approves the revised electric and gas savings estimates as final ex ante savings. As stated above, the EAR team recommends that in the future, for EE projects implemented at sites where self-generation is present IOU should maintain grid connection diagram, meter number and bills to facilitate verification of the grid impact and the PPP paying status.

Review Conclusion

Savings and incentives are approved at the IR approved levels. In the interest of time, the EAR team is not taking further verification steps and approves estimated electric and gas savings as final ex ante savings. In the future, for EE projects implemented at sites where self-generation is present IOU should maintain grid connection diagram, meter number and bills to facilitate verification of the grid impact and the PPP paying status.

Table 1-2: Project Overview

Description	IOU Proposed Ex Ante Data	ED Recommendations
Project Baseline Type (Early Replacement, Normal Replacement,	Normal Replacement	Normal replacement is

Phase III Ex Ante Review Findings

Description	IOU Proposed Ex Ante Data	ED Recommendations
Capacity Expansion, New Construction, System Optimization, Add-on Measures)		reasonable.
Project Cost Basis (Full Cost, Incremental Cost)	Incremental costs of \$638,138; average of other UPS options considered	Incremental cost basis is acceptable for this project.
RUL (Early retirement projects only, otherwise N/A (not applicable))	N/A	N/A
EUL	10-12 years (based on manufacturer interviews)	11 years
First Year kWh Savings	26,354 (per the revised calculation spreadsheet)	26,354
First Year Peak kW Savings	0.0 (per the revised calculation spreadsheet)	0.0
First Year Therms Savings	17,900	17,900
kWh Savings (RUL Period)	N/A	N/A
Peak kW Savings (RUL Period)	N/A	N/A
Therms Impact (RUL Period)	N/A	N/A
kWh Savings (EUL thru RUL Period)	N/A	N/A
Peak kW Savings (EUL thru RUL Period)	N/A	N/A
Therms Savings (EUL thru RUL Period)	N/A	N/A
Annual Non-IOU Fuel Impact (RUL Period)	N/A	N/A
Annual Non-IOU Fuel Impact (EUL	N/A	N/A

Description	IOU Proposed Ex Ante Data	ED Recommendations
thru RUL Period)		
Net-to-Gross Ratio	Not provided	Not assessed

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: Normal Replacement
	ED Assessment: Normal Replacement
	ED Recommendation: None.
Project Cost Basis (for early retirement projects only, include RUL through EUL cost basis treatment)	IOU Proposal: Incremental costs of \$638,138
	ED Assessment: Incremental measure costs will apply.
	ED recommendation: Incremental cost basis is acceptable for this project.
RUL (required for early retirement projects only, otherwise n/a)	IOU Proposal: N/A
	ED Assessment: N/A
	ED recommendation: N/A
EUL	IOU Proposal: 10-12 years (based on manufacturer interview)
	ED Assessment: Acceptable
	ED Recommendation: 11 years
Savings Assumptions	IOU Proposal: The IOU reviewers converted most of the kWh savings to equivalent therm savings because the facility uses a cogeneration plant to produce the majority of the electricity used on campus. A conversion factor of 10,100 therms/kWh based on the heat rate estimated by the facility personnel was utilized for this conversion. Per the IR Review report, the facility personnel also estimated from trend data that the cogeneration plant operates 7,626 hours per year (87% of year) and that the facility purchases electricity from PG&E during the remaining 1,134 hours per year (13% of year). Therefore, the IOU reviewer converted 87% of the electric savings to equivalent gas savings and approved the remaining 13% of electric savings. The savings were calculated using the estimated UPS loads (forecasted using

Phase III Ex Ante Review Findings

Reviewed Parameter	Analysis
	<p>trend data for 2007-2012) for the years 2013-2017 and the manufacturer performance specifications.</p> <p>ED Assessment: It appears that co-gen gas is paying PPP charges but the ex ante review (EAR) team could not verify with certainty from IOU's response. The EAR team reiterates that CPUC policies require that fuel(s) being saved from implementing EE measures must be paying PPP charges and must have demonstrated impact on the grid.</p> <p>ED Recommendation: In the interest of time, the EAR team is not taking further verification steps and approves estimated electric and gas savings as final ex ante savings.</p>
Calculation Methods/Tool review	IOU Proposal: The IOU utilized a spreadsheet based approach.
	ED Assessment: The IOU methods appear reasonable.
	ED Recommendation: In the interest of time, the EAR team is not taking further verification steps and approves estimated electric and gas savings as final ex ante savings.
Pre- or Post-Installation M&V Plan	IOU Proposal: The IOU performed a post-installation verification.
	ED Assessment: ED approves the IOU post-installation verification activities.
	ED Recommendation: None
Net-to-Gross Review	IOU Proposal: Not provided
	ED Assessment: Not recommended
	ED Recommendation: None