

Final Phase III Ex Ante Review Findings

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

IOU	PGE
Application ID	2K12078269
Application Date	11/23/11
Program ID	PGE21011
Program Name	Customized Retrofit - Demand Response
Program Year	2012
Itron Project ID	X062
IOU Ex Ante Savings Date	1/11/12 (PA) and 5/28/2013 (IR)
ED Measure Name	UPS Retrofit
Project Description	Replacement of the existing 4,000 kVA UPS module with a 4,400 kVA UPS module
Date of ED Review(s)	Phase I: 3/19/12 Phase II: 9/5/12 Phase III: 9/6/13
Primary Reviewer / Firm	Phani Pagadala/Itron
Review Supervisor / Firm	Joseph Ball/Itron
ED Project Manager	████████████████████ ████████████████████
ED Policy Authorization (as needed)	
Type of Review (Desk, On-site, Full M&V, Tool)	Desk Review
ED Recommendation	The ex ante savings are approved at ED recommended values of 131,525 kWh and 15.0 kW, however, ED recommends that the IOU submit incremental costs for review before this project is included in a quarterly claim. ED-conducted freeridership assessment shows that the participant is a highly likely freerider (FR score 0.83). Providing incentives for this project is an

	imprudent use of ratepayers' funds.
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Measure Description

The project scope entailed the replacement of an existing UPS module with a more efficient UPS module. Per the scope, the existing UPS 1 module rated at 4,000 kVA (4 x 1,000 kVA) will be replaced with a higher capacity 4,400 kVA system (4 x 1,110 kVA).

The project installation review (IR) was completed by an IOU consultant on 5/28/2013 and the ED received all pertinent project documentation on 6/24/2013.

The savings claim as result of this UPS retrofit is 154,143 kWh 17.6 kW of peak demand reduction. The incentive amount is estimated to be \$10,583.

Summary of Review

The Investor Owned Utility (IOU) submitted the following documents for Data Request (DR) EEGA 1902_Suppl05 on 6/24/2013 for this Phase III review:

- IR report
- Savings Calculations
- Invoices
- Correspondence documentation

The IOU on 8/20/2013 provided additional project invoices upon the Commission staff's request for proof of positive incremental measure costs. These invoices detailed the as-installed measure costs and did not provide any evidence of baseline costs.

Gross Impact Calculations:

- Spot power readings and actual operating characteristics of the baseline UPS system were collected during the PA inspection for a period of 1 year (Jan – Dec, 2011). Operating data for a month (Apr – May, 2013) was collected during the IR reporting. All assumptions made for the calculations were sufficiently explained.
- The review team updated the savings estimates by adjusting the baseline equipment efficiency value calculated using the co-efficients described in Table 23 of the *Energy Efficiency Baselines for DATA CENTERS* document.

NTG Summary:

- A NTG interview was completed with the participant on 5/16/2012. The calculated net to gross ratio for this project was 0.17. This project has very low program influence, and is being done to replace failing equipment and improve reliability. The customer gave the

probability of installing the same equipment absent the program a 10 out of 10, i.e., absolute certainty they would have done the project outside of the program.

Conclusion: High free ridership

Incentive Review:

- It is stated in the IR report that the incentive amount has been capped at the project application (PA) approved incentive amount because the energy savings increased due to an operational change which does not meet any of the criteria of Section 1.8.1 of the 2013 Statewide Customized Offering Procedures Manual for Business.

Review Conclusion

The Commission staff has reviewed IOU-estimated energy savings and incentives and has made necessary adjustments due to incorrect power factor used in the IOU’s calculations. The ex ante savings are approved at ED recommended values of 131,525 kWh and 15.0 kW. PG&E has not submitted estimated incremental cost despite repeated requests.

ED Requested IOU Actions

As mentioned in the IMC subgroup deliberations, the incremental cost of predominantly electronic equipment must be estimated regardless of the incentive amount involved. Since the amount of incentive is small for this project, the Commission staff, without setting a precedent, approves payment of estimated incentives but recommends that PG&E submit incremental costs for review before this project is included in a quarterly claim.

Table 1-2 Review Findings

Reviewed Parameter	Analysis
Project Baseline Type (Early Replacement, Normal Replacement, Capacity Expansion, New Construction, System Optimization, Add-on Measures) Note: For early retirement projects only, include RUL through EUL baseline)	IOU Proposal: Capacity Expansion
	ED Assessment: The IOU indicated that the equipment is past it’s EUL but still function and able to meet facility operational requirements.
	ED Recommendation: Normal Replacement
Project Baseline Technology (in situ equipment, Title 24 (specify year), other	IOU Proposal: In situ
	ED Assessment: In situ is acceptable since the existing UPS was past it’s EUL but still meeting the facility operating needs.

Reviewed Parameter	Analysis
code or other efficiency level (specify), industry standard practice - ISP)	ED Recommendation: None
Project Cost Basis (Full Incremental, or Both. Note: For early retirement projects, include RUL through EUL cost basis treatment)	IOU Proposal: Full cost of \$3,792,401
	ED Assessment: Incremental costs will apply. The IOU has not provided the incremental measure costs.
	ED recommendation: ED requests the IOU to submit incremental costs for review before this project is included in a quarterly claim.
RUL (required for early retirement projects only, otherwise N/A)	IOU Proposal: None
	ED Assessment: The IOU indicated that the existing UPS module was in operation since 1992 and was still able to meet facility operating needs.
	ED recommendation: None
EUL (for each measure)	IOU Proposal: UPS unit EUL not provided – however, a 15-year battery replacement cycle was provided in the UPS comparison report from the original documentation
	ED Assessment: The IOU provided a manufacturer supplied battery replacement cycle of 15 years, which is an acceptable EUL for the unit
	ED Recommendation: 15 years
Savings Assumptions	IOU Proposal: The IOU reported baseline UPS efficiency values were not consistent with recommendations in the <i>Energy Efficiency Baselines for DATA CENTERS</i> document.
	ED Assessment: Utilize baseline efficiency values as prescribed in the <i>Energy Efficiency Baselines for DATA CENTERS</i> document
	ED Recommendation: ED revised the savings estimates by adjusting the baseline equipment efficiency value calculated using the co-efficients described in Table 23 of the <i>Energy Efficiency Baselines for DATA CENTERS</i> document
Calculation Methods/Tool review	IOU Proposal: Spreadsheet based calculations
	ED Assessment: Calculation methodology used is acceptable.
	ED Recommendation: None
Pre- or Post-Installation M&V Plan	IOU Proposal: The IOU collected actual operating amperages for a month after the system commissioning.
	ED Assessment: The IOU post-installation activities are acceptable
	ED Recommendation: None
Net-to-Gross Review	IOU Proposal: Not provided
	ED Assessment: See NTG Summary in ‘Summary of Review’ section on

Reviewed Parameter	Analysis
	page 2.
	ED Recommendation: 0.17 – High free ridership

Table 1-3 Energy Savings Summary , Project Costs & Incentive

Description	IOU Ex Ante Claim	ED Recommendations
First Year kWh Savings	154,143	131,525
First Year Peak kW Savings	17.6	15.0
First Year Therms Savings	N/A	N/A
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 (RUL thru EUL Period)	154,143	131,525
Peak kW Savings (RUL thru EUL Period)	17.6	15.0
Therms Savings (RUL thru EUL Period)	N/A	N/A
Annual Non-IOU Fuel Impact (RUL Period)	N/A	N/A
Annual Non-IOU Fuel Impact (RUL thru EUL Period)	N/A	N/A
Project Costs for Baseline #1 (RUL or EUL)	Not provided	ED recommends that the IOU submit baseline costs for review before this project is included in a quarterly claim
Project Costs for Baseline #2 (EUL minus RUL period)	N/A	N/A
Project Incentive Amount	\$10,583	Approved