Phase 1 Ex Ante Review Findings

Table 1: Project Information

IOU	PGE
Application ID	HIEEP 1086-07
Application Date	TBD
Program ID	PGE2223
Program Name	Heavy Industrial Energy Efficiency Program
Program Year	2013
Itron Project ID	X268
IOU Ex Ante Savings Date	TBD
ED Measure Name	High Efficiency Power Supply
Project Description	Replace glass melter power supply with a high efficiency power supply.
Date of ED Review(s)	6/4/2013
Primary Reviewer and Firm	Keith Rothenberg/Energy Metrics
Review Supervisor and Firm	Joseph Ball/Itron
Type of Review (Desk, On-site, Full M&V, Tool)	Desk
ED Project Manager	[redacted]
ED Policy Authorization (as needed)	
ED Recommendation	The project is conditionally approved. The final savings impacts will be trued-up based on post installation M&V.

Measure Description

This project involves the beginning of a phased replacement of SCR controlled melter power supplies used for glass melters at a fiberglass manufacturing plant with more efficient continuously variable voltage "Varivolt" auto tap transformers. The existing SCR power supplies require mechanical cooling (chilled water and packaged air conditioning) to remove heat. The Varivolt power supplies have an estimated efficiency of 98% and only require cooling tower water to maintain their internal temperature in a safe range. This project proposes to replace two power supplies. The remaining four modules are expected to follow at a later date.

Summary of Review

The Investor Owned Utility (IOU) submitted the following documents for Data Request (DR) EEGA 2567 for this review:

- Transmittal Memorandum for DR EEGA 2567
- Project Feasibility Study
- Monitoring data from a previous project
- M&V plan
- Responses to questions raised during phone conferences between IOU representatives and ED representatives
- Monitoring data related to the existing equipment
- Thermometer and flow meter cut sheets for the existing measurement equipment.
- An industry standard practice assessment for the technology

The project review has included review of the documents listed above and phone conferences between IOU and ED representatives. The IOU has proposed an early replacement project type with an in situ baseline. ED determined that the existing power supplies are 37 years old and was concerned that the power supplies may have reached the end of their useful life. The IOU provided an industry standard practice assessment, however it did not address key concerns that ED representatives felt were pertinent to the project.

ED representatives contacted representatives from two manufacturers of power supplies for this type of application. Based on those interviews, ED representatives have concluded that the IOU assertion that the equipment has remaining useful life is valid and the early replacement project type is appropriate. The IOU has proposed a 5 year remaining useful life for the project and this is accepted. ED's discussion with the manufacturer representatives revealed that new equipment purchased today for both the Varivolt and SCR technologies have relatively equal efficiencies and therefore there would be no savings impacts in the EUL-RUL period.

Review Conclusion

The ex ante savings are conditionally approved. The final savings impacts will be trued up based on post installation M&V.

Summary of ED Requested Action by the IOU

ED requests that the IOU undertake the recommended steps and submit the following data and documentation as they become available:

1. Measure EUL.

2. Post installation inspection report.

3. Post installation data, analysis and interpretation of the analysis.

4. Incremental and final total cost documentation.

Additional ED requests

1. ED requests that PG&E continue to keep ED informed of progress and next steps on this project.

2. ED requests to be informed of any future site visits including the post-installation inspection, in case it chooses to send a representative on-site.

3. ED requests the opportunity to review the requested data, analysis and calculations prior to the freezing of ex ante savings impacts for this project.

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)	Early Replacement	Approved
Project Cost Basis (Full Cost, Incremental Cost)	Full cost	Approved
RUL (Early retirement projects only, otherwise N/A (not applicable)	5 years	Approved
EUL	Not provided	TBD
First Year kWh Savings	1,400,932	TBD
First Year Peak kW Savings	217	TBD
First Year Therms Savings	0	0
kWh Savings (RUL Period)	1,400,932	TBD
Peak kW Savings (RUL Period)	217	TBD
Therms Impact (RUL Period)	0	0
kWh Savings (RUL thru EUL Period)	Not provided	0
Peak kW Savings (RUL thru EUL Period)	Not provided	0
Therms Savings (RUL thru EUL Period)	Not provided	0
Annual Non-IOU Fuel Impact (RUL Period)	NA	NA
Annual Non-IOU Fuel Impact (RUL thru EUL Period)	NA	NA
Net-to-Gross Ratio	Not addressed	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: Early replacement
	ED Assessment: Approved for RUL period.
	ED Recommendation: None for the RUL period. For the EUL-RUL period, the proposed equipment is ISP efficiency and the savings impacts are zero.
Project Cost Basis (for early retirement projects only, include RUL through EUL cost basis treatment)	IOU Proposal: Full cost
	ED Assessment: Approved for RUL period.
	ED Recommendation: None for the RUL period. For the EUL-RUL period, the proposed equipment is ISP efficiency and the incremental cost is zero.
RUL (required for early retirement projects only, otherwise n/a)	IOU Proposal: 5 years
	ED Assessment: Approved
	ED recommendation: None
EUL	IOU Proposal: Not provided
	ED Assessment: TBD
	ED Recommendation: IOU to provide EUL.
Savings Assumptions	IOU Proposal: Baseline energy consumption determined from measurements. Post installation energy consumption assumed.
	ED Assessment: Reasonable approach for estimating impacts. Final impacts will be based on post installation M&V.
	ED Recommendation: None
Calculation Methods/Tool review	IOU Proposal: Spread sheet analysis using measurements and engineering principals.
	ED Assessment: Reasonable approach.
	ED Recommendation: None
Pre- or Post-Installation M&V Plan	IOU Proposal: Pre-project equipment power measured. Measurements of existing power supply heat loss converted to equivalent electric energy loss. Post project power loss will be measured.
	ED Assessment: Reasonable approach
	ED Recommendation: None
Net-to-Gross Review	IOU Proposal: Not provided
	ED Assessment: ED will perform a NTG review for this project.

Reviewed Parameter	Analysis
	ED Recommendation: TBD