Phase I Ex Ante Review Findings

Table 1-1: Project Information

IOU	PGE
Application ID	1822 (TPI Project: 1310-1822-031)
Application Date	11/19/12
Program ID	PGE2222
Program Name	Energy Efficiency Incentives (EEI) Program for Oil and Gas Production
Program Year	2012
Itron Project ID	X247
IOU Ex Ante Savings Date	Not provided
ED Measure Name	Pump Off Controllers (POCs) for Rod Beam Pumping Units
Project Description	Installation of ten POCs on rod beam pumps that are currently controlled by variable speed drives (VSDs)
Date of ED Review(s)	1/18/13
Primary Reviewer and Firm	Phani Pagadala/Itron
Review Supervisor and Firm	Joseph Ball/Itron
Type of Review (Desk, On-site, Full M&V, Tool)	Desk Review
ED Recommendation	Conditional approval subject to post-installation data collection and savings true up

Measure Description

The proposed project entails installing POCs on ten (10) rod beam pumps at the facility. Per the third party implementation (TPI) team contact, the customer is currently in the process of installing the VSDs on the wells and anticipates the installation of POCs once the well conditions allow for the POC addition. The POC will shut the well down based on downhole conditions, resulting in energy savings. The baseline equipment for this project is claimed to be the existing rod beam pumps with VSDs. According to the submitted project description report, the annual energy savings estimated for the POC installation are 61,356 kWh with no anticipated peak demand reduction. The project incentive is estimated at $5,522.

Summary of Review

Included within the application packet that was received and reviewed during this Phase I review were the following: project agreement letter, project description report and the preliminary savings calculations.

The project's energy savings estimates were calculated utilizing well design data (motor HP, pump diameter, stroke length and well production rates) in conjunction with algorithms based on the standard performance contract (SPC) POC calculator.

The TPI contractors intend to carry out post-installation verification activities using actual production data, stroke length, strokes per minute, pump size, and motor horsepower to re-calculate the savings.

ED agrees with the IOU/TPI baseline equipment selection of system optimization for this project. ED recommends the use of actual runtime data for a period of at least two weeks (informed via the POCs) to establish the POC 'Run Time Factor - %', in conjunction with the aforementioned data, in order to improve the accuracy of the savings estimate. The ED approves the IOU proposal of determining the actual measure costs after project completion.

Review Conclusion

The ED conditionally approves the energy savings for the proposed project and requests an opportunity to review the savings estimates after the post-installation data collection and savings re-calculation activities have been completed.

Summary of ED Requested Action by the IOU

ED requests that the IOU submit the following once the measure installation and the post-installation data collection activities are completed:

1. As part of the post-install data collection activities, ED asks the IOU to monitor operating hours, power consumption and the actual production data of the optimized wells and POCs for a period of at least two weeks, and verify the stroke length, the strokes per

minute, pump size, and motor HP ratings of all 10 pumps, in order to re-calculate the savings for the true-up.

2. IOU post-install inspection report (IR) including the "live" revised savings calculations, and
3. Itemized invoices detailing the project's actual measure costs.

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)	System Optimization	No change recommended
Project Cost Basis (Full Cost, Incremental Cost)	Full Cost	Full cost appears reasonable; however, ED recommends that the IOU submit the actual itemized project invoices, when they become available.
RUL (Early retirement projects only, otherwise N/A (not applicable))	N/A	N/A
EUL	Not provided	ED recommends an EUL of 10 years (based on IOU supplied EUL values for prior POC evaluation projects).
First Year kWh Savings	61,356	TBD, pending post-installation data collection, and savings true-up.
First Year Peak kW Savings	0	TBD; installation of the POC might result in negative peak kW savings since the VSD operational efficiency is, in theory, better than that of a POC.

Description	IOU Proposed Ex Ante Data	ED Recommendations
First Year Therms Savings	Not provided	TBD
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 thru RUL Period)	N/A	N/A
Net-to-Gross Ratio	Not provided	Not recommended

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: System Optimization
	ED Assessment: IOU baseline selection is appropriate
	ED Recommendation: No change recommended
Project Cost Basis (for early retirement projects only, include RUL through EUL cost basis treatment)	IOU Proposal: Full cost of approximately $5,000 per POC.
	ED Assessment: Full costs appear reasonable.
	ED recommendation: Submit the actual installed measure costs, as available.
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: None provided
	ED Assessment: 10 years (based on IOU supplied EUL values for prior POC evaluation projects).
	ED Recommendation: 10 years
Savings Assumptions	IOU Proposal: The IOU/ TPI utilized calculations based on the SPC POC calculator. Assumptions were made for the pump sizes and production levels. The baseline operation of the wells was assumed to be 8,585 hours per year.
	ED Assessment: The SPC POC calculator based calculations and assumptions are reasonable.
	ED Recommendation:

Reviewed Parameter	Analysis
	ED recommends the use of actual runtime data from the POCs (for a period of at least two weeks) to establish the 'Run Time Factor - %' along with the actual production data and the verified motor HP ratings to re-calculate the savings for this project.
Calculation Methods/Tool review	IOU Proposal: The IOU utilized a spreadsheet base approach based on the SPC POC calculation tool.
	ED Assessment: The IOU methods appear reasonable.
	ED Recommendation: ED recommends the use of actual post-installation operating data.
Pre- or Post-Installation M&V Plan	IOU Proposal: The IOU intends to perform a post-installation verification to collect the following data: ■ actual production data, ■ stroke length, ■ strokes per minute, ■ pump size, and ■ motor horsepower
	ED Assessment: ED approves the IOU/TPI post-installation data collection activities. However, ED recommends the additions (provided below) to the current plan.
	ED Recommendation: Collect actual runtime data for a period of at least two weeks (informed via the POCs) in addition to the IOU/TPI post-installation data collection activities listed in 'Summary of ED Requested Actions of IOU' section above.
Net-to-Gross Review	IOU Proposal: Not provided
	ED Assessment: Not recommended
	ED Recommendation: None