

Phase II Ex Ante Review Findings

Table 1-1: Project Information

IOU	PGE
Application ID	1445-13-1197
Application Date	01/31/2013
Program ID	PGE2222
Program Name	Energy Efficiency Services for Oil Production
Program Year	2013
Itron Project ID	X319
IOU Ex Ante Savings Date	TBD
ED Measure Name	Progressive Cavity Pumping Unit w/ VSD
Project Description	Install new Progressive Cavity Pumps (PCPs) with variable speed drives (VSDs)
Date of ED Review(s)	Phase I : 04/05/2013 Phase II: 06/03/2013
Primary Reviewer and Firm	Phani Pagadala /Itron
Review Supervisor and Firm	Joseph Ball/ Itron - Nikhil Gandhi / CPUC - ED
ED Project Manager	██████████ / California Public Utilities Commission, Energy Division
ED Policy Authorization	
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

Measure involves the installation of three (3) new PCPs with variable speed drives VSDs for oil extraction, in lieu of conventional rod-beam pumping (RBP) units without any controls.

Summary of Review

The IOU third-party implementer (TPI) submitted the following documents for this Phase II ex ante review:

- Response to the Phase I EAR,
- Drill Summary contained in an MS Excel workbook

Based on ED's review of the IOU response, the use of a hypothetical baseline (uncontrolled rod beam pump) appears to be feasible and the ED approves the IOU baseline claim of uncontrolled RBPs. However, based on the findings from the recently completed industry standard practice (ISP) assessment study, ED recommends that the savings from the VSD units should be removed from the savings claim as installation of VSDs on PCPs was found to be ISP for all oilfield sizes.

Review Conclusion

ED conditionally approves the savings for the proposed project and requests an opportunity to review the savings estimates after the post-installation data collection and savings true-up activities are completed. The TPI provided a post-installation data collection plan to verify the well depths, production rates, etc. ED approves the TPI data collection plan. ED recommends that savings resulting from the installation of VSDs on the PCPs be removed from the project gross impact savings claim as VSDs on PCPs are considered to be ISP.

Summary of ED Requested Action by the IOU

ED requests that the IOU submit the following documentation after post-installation data collection activities are completed:

- Provide the IR report findings
- Submit revised savings calculations for true-up, and
- Provide the project's actual measure costs broken out by material and labor. To help determine the true incremental measure cost, ED requests the IOU to provide baseline project costs, informed via as-installed costs for the baseline equipment (uncontrolled RBPs) previously installed at the facility.

Table 1-1: 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)	New Construction	New Construction
Project Cost Basis (Full Cost, Incremental Cost)	Incremental Cost \$25,000 per well conversion	TBD; ED recommends that the IOU submit the baseline and installed measure costs, when they become available
RUL (Early retirement projects only, otherwise N/A (not applicable))	N/A	N/A
EUL	None provided	15 years
First Year kWh Savings	20,120.7	TBD; Pending post-installation data collection and savings true up. ED also recommends removing the additional savings resulting from the VSD installation.
First Year Peak kW Savings	2.34	TBD; Pending post-installation data collection and savings true up. ED also recommends removing the additional savings resulting from the VSD installation.
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)	20,120.7	TBD; Pending post-installation data collection and savings true up. ED also recommends removing the additional savings resulting from the

Description	IOU Proposed Ex Ante Data	ED Recommendations
		VSD installation as installation of VSDs on PCPs is considered to be an ISP per a recently completed ED study.
Peak kW Savings (RUL thru EUL Period)	2.34	TBD; Pending post-installation data collection and savings true up. ED also recommends removing the additional savings resulting from the VSD installation as installation of VSDs on PCPs is considered to be an ISP per a recently completed ED study.
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
Net-to-Gross Ratio	None provided	Not Required

Table 1-2: Detailed Review Findings

Reviewed Parameter	Analysis
Project Gross Savings Baseline (for early retirement projects only, include RUL through EUL baseline)	IOU Proposal: Uncontrolled rod beam pump (Source: SPE 37499)
	ED Assessment: The IOU TPIs propose utilizing an uncontrolled RBP as the project gross impact baseline. Additional information was provided in the Phase I EAR to validate this baseline claim. ED has reviewed the response document and approves the hypothetical baseline claim based on the review findings.
	ED Recommendation: IOU’s hypothetical baseline claim is approved
Project Cost Basis (for early retirement projects only, include RUL through EUL cost basis treatment)	IOU Proposal: Incremental Cost (\$25,000 per well conversion)
	ED Assessment: Incremental costs apply
	ED recommendation: TBD; ED recommends that the IOU submit the baseline equipment costs and actual installed itemized measure costs, broken down by material and labor
RUL (required for early	IOU Proposal: N/A

Reviewed Parameter	Analysis
retirement projects only, otherwise n/a)	ED Assessment: N/A
	ED recommendation: N/A
EUL	IOU Proposal: None provided
	ED Assessment: 15 years
	ED Recommendation: 15 years
Savings Assumptions	IOU Proposal: The IOU TPIs assume the average bpd values and projected pump depths.
	ED Assessment: ED requests the IOU to provide actual flow rates and well depths after the measure installation is complete.
	ED Recommendation: Provide actual well depths and flow rates.
Calculation Methods/Tool review	IOU Proposal: Spreadsheet based analysis
	ED Assessment: IOU approach seems reasonable.
	ED Recommendation: None
Pre- or Post-Installation M&V Plan	IOU Proposal: Post-installation verification of the following parameters: <ul style="list-style-type: none"> ■ Production ■ Well Depth ■ VSD Loading
	ED Assessment: IOU post-installation data collection plan is acceptable but with the following additions per ED recommendations below.
	ED Recommendation: ED recommends that no additional savings for VSD installation maybe claimed. It is recommended that the IOU simulate the non-VSD scenario by setting the pump at 100% speed and then use the VSD efficiency multiplier to calculate the system efficiency without controls, as the ED believes that gains from the pumping efficiency improvement will need to be only on equal grounds at the same speed, depth and volume.
Net-to-Gross Review	IOU Proposal: None provided
	ED Assessment: Not required
	ED Recommendation: None