

## Final Phase II Ex Ante Review Findings

**Table 1-1: Project Information**

<b>IOU</b>	PG&E
<b>Application ID</b>	STPB007309 (formerly Sales Lead of 28051)
<b>Application Date</b>	10/25/2012
<b>Program ID</b>	PGE21021
<b>Program Name</b>	Industrial Calculated Incentives (Hybrid Rebate Program)
<b>Program Year</b>	2012
<b>Itron Project ID</b>	X218
<b>IOU Ex Ante Savings Date</b>	August 9, 2012
<b>ED Measure Name</b>	Hybrid Steam Trap Retrofits
<b>Project Description</b>	Replace 361 steam traps which have failed in open position.
<b>Date of ED Review(s)</b>	Phase I - 01/08/2013 Final - 06/25/2013
<b>Primary Reviewer and Firm</b>	Kumar Chittory/Itron
<b>Review Supervisor and Firm</b>	Joseph Ball/Itron
<b>ED Project Manager</b>	
<b>ED Policy Authorization (as needed)</b>	
<b>Type of Review (Desk, On-site, Full M&amp;V, Tool)</b>	Desk Review
<b>ED Recommendation</b>	Ex ante savings of 644,467 therms are approved for freezing

## **Measure Description**

The measure involves replacing 361 faulty steam traps which have failed in open position with new steam traps.

## **Summary of Review**

The IOU submitted the following documents for Phase II ex ante review:

- XXXXXX Pressure Measurements Site Visit 042613.pdf
- Supplemental Non-measured Data for Trap Sample.xlsx

During the phase I review, ED used an adjustment factor of 0.578 to the pressure at the header in order to obtain an estimate of the pressure at the inlet of the steam trap. The 0.578 multiplier provided the pressure drop across a steam using device that produces choked flow based on a known inlet pressure. ED decided to use this multiplier as the audit did not contain the steam pressures entering the traps. ED recommended that the multiplier will be removed if all the traps were drip leg traps or if pressure at the trap is confirmed by on-site measurements.

The facility performed the on-site visit and provided the pressure measurements and application type for the ED recommended sample of steam traps. After reviewing the on-site collected data, ED agrees that the multiplier of 0.578 can be removed from the savings calculations since the measured pressure is very close to the header pressure used in the calculation spreadsheet. ED agrees with the IOU estimated savings of 644,467 therms for this project.

## **Review Conclusion**

Ex ante savings of 644,467 therms are approved for freezing.

**Table 1-2 Review Findings**

Reviewed Parameter	Analysis
<p><b>Project Baseline Type</b> (Early Replacement, Normal Replacement, Capacity Expansion, New Construction, System Optimization, Add-on Measures)                      Note: For early retirement projects only, include RUL through EUL baseline)</p>	IOU Proposal: System Optimization
	ED Assessment: System Optimization
	ED Recommendation: None
<p><b>Project Baseline Technology</b> (in situ equipment, Title 24 (specify year), other code or other efficiency level (specify), industry standard practice - ISP)</p>	IOU Proposal: In situ
	ED Assessment: In Situ
	ED Recommendation: None
<p><b>Project Cost Basis</b> (Full Incremental, or Both.                      Note: For early retirement projects, include RUL through EUL cost basis treatment)</p>	IOU Proposal: Full cost
	ED Assessment: Full cost
	ED recommendation: None
<p><b>RUL</b> (required for early retirement projects only, otherwise N/A)</p>	IOU Proposal: N/A
	ED Assessment: N/A
	ED recommendation: N/A
<p><b>EUL</b> (for each measure)</p>	IOU Proposal: Not provided
	ED Assessment: 6 years from DEER 2008
	ED Recommendation: 6 years
<p><b>Savings Assumptions</b></p>	IOU Proposal: Input parameters were collected from steam trap audit and used in the HP steam trap estimation tool.
	ED Assessment: ED agrees with the input values for all the parameters except the input pressure. The pressures listed in the steam trap audit appear to be the header pressures of various steam loops in the plant.
	ED Recommendation: None
<p><b>Calculation Methods/Tool review</b></p>	IOU Proposal: IOU calculated the savings using HP steam trap estimation tool
	ED Assessment: ED used the input values from the steam trap audit in a steam trap savings calculator developed during the 06-08 evaluations.

Reviewed Parameter	Analysis
	ED Recommendation: None
<b>Pre- or Post-Installation M&amp;V Plan</b>	IOU Proposal: For post-install verification, the IOU verified the total number of steam replacements, and re-calculated the savings to be within 3% of initial estimates.
	ED Assessment: Accepts IOU using initial savings estimates
	ED Recommendation: None
<b>Net-to-Gross Review</b>	IOU Proposal: Not provided
	ED Assessment: ED conducted a NTG interview with this facility in May of 2012 as part of ED's Custom Impact Evaluation for 2010-2012 for the before-decision (BD) period. This company replaced a large number of failed steam traps, over 200, through the program during 2010 and is continuing to do so through this proposed project. Their primary reasons are to save energy and improve the reliability of their steam system. Although the idea for this project came from inside the company, and they were already doing steam trap surveys and replacement on their own, they said that the availability of program incentives has allowed them to replace more traps earlier than otherwise. In terms of the NTG scoring, the program decision influence that they scored the highest was the payback on the investment with the incentive. They scored the program's overall influence on their decision a 6 out of 10 in importance, and assigned a 3 out of 10 likelihood that they would have installed exactly the same program qualifying efficient equipment in the absence of the program. Based on the interview ED assigns a NTGR of 0.60 for this project.
	ED Recommendation: NTGR = 0.60

**Table 1-3 Energy Savings Summary**

Description	IOU Ex Ante Claim	ED Recommendations
<b>First Year kWh Savings</b>	N/A	N/A
<b>First Year Peak kW Savings</b>	N/A	N/A
<b>First Year Therms Savings</b>	644,467	644,467
<b>kWh Savings (RUL Period)</b>	N/A	N/A
<b>Peak kW Savings (RUL Period)</b>	N/A	N/A
<b>Therms Impact (RUL Period)</b>	N/A	N/A
<b>kWh Savings (RUL thru EUL Period)</b>	N/A	N/A

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<b>Description</b>	<b>IOU Ex Ante Claim</b>	<b>ED Recommendations</b>
<b>Peak kW Savings</b> (RUL thru EUL Period)	N/A	N/A
<b>Therms Savings</b> (RUL thru EUL Period)	N/A	N/A
<b>Annual Non-IOU Fuel Impact</b> (RUL Period)	N/A	N/A
<b>Annual Non-IOU Fuel Impact</b> (RUL thru EUL Period)	N/A	N/A