

## **Ex Ante Review Findings**

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

	Complete table; use TBD when unknown
<b>IOU</b>	PGE
<b>Application ID</b>	2K12078819-X046
<b>Application Date</b>	01/30/2012
<b>Program ID</b>	TBD
<b>Program Name</b>	2012 Customized Retrofit – Demand Response
<b>Program Year</b>	2012
<b>Itron Project ID</b>	TBD
<b>IOU Ex Ante Savings Date</b>	TBD
<b>ED Measure Name</b>	TBD
<b>Project Description</b>	Install two new heat exchangers E-2XA/B to preheat the boiler feedwater used to produce 250-psig steam
<b>Date of ED Review(s)</b>	03/19/2012
<b>Primary Reviewer and Firm</b>	Kunal Desai/Itron Inc
<b>Review Supervisor and Firm</b>	Joseph Ball/Itron
<b>Type of Review (Desk, On-site, Full M&amp;V, Tool)</b>	Desk Review
<b>ED Recommendation</b>	Conditional approval subject to post-installation M&V and savings true up.

### Measure Description

Install two new heat exchangers to preheat the boiler feedwater (BFW) which is used in steam generator waste heat recovery to produce 250-psig steam; the BFW will then use waste heat in the Heavy Cycle Oil (HCO) pump-around stream at the FCC Main Fractionator. This measure will increase the steam production rate while reducing the system pressure from 600 to 250 psig. Thus steam production at the gas-fired #6 swing boiler will be reduced. Natural gas consumed by boiler #6 will be reduced accordingly.

### Summary of Review

The documents reviewed by ED are: A spreadsheet containing project application, project sponsor information, participating letter, inspection report and photos.

### Review Conclusion

ED conditionally approves the savings for the proposed project (PGE 2K12078819) and requests an opportunity to review savings estimate after post-installation measurements are taken. PG&E has not proposed a post-installation M&V plan. ED suggests measuring as-installed parameters such as the feed water flow and temperature, and recalculating the impact of heat transfer after equipment is installed. PG&E should provide ED with an M&V plan for review.

### Summary of ED Requested Action by the IOU

In order to complete an ex ante review the ED recommends that the IOU submit the following documentation due on **4/4/2012**:

1. Provide post-installation M&V Plan.
2. Submit revised savings calculations after equipment is installed and is operational.
3. Submit supporting data such as manufacturer's performance data, cut sheets or specifications for new heat exchangers when available.
4. Provide project cost estimates, vendor proposals, or any documentation to support the full cost claim when available.

**Table 1-2: Project Overview**

Description	IOU Proposed Ex Ante Data	ED Recommendations
Project Baseline Type (Early Replacement, Normal Replacement,	Add on measure	Add on measure claim for the new heat exchangers is

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<b>Description</b>	<b>IOU Proposed Ex Ante Data</b>	<b>ED Recommendations</b>
<b>Capacity Expansion, New Construction, System Optimization, Add-on Measures)</b>		acceptable
<b>Project Cost Basis (Full Cost, Incremental Cost)</b>	Full cost	Full cost acceptable
<b>RUL (Early retirement projects only, otherwise N/A (not applicable))</b>	N/A	N/A
<b>EUL</b>	Not provided	14 years based on DEER 2008 non residential air to air heat exchangers
<b>First Year kWh Savings</b>	N/A	TBD
<b>First Year Peak kW Savings</b>	N/A	TBD
<b>First Year Therms Savings</b>	1,850,694	TBD after post installation M&V
<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>	TBD	TBD
<b>Peak kW Savings (RUL thru EUL Period)</b>	TBD	TBD
<b>Therms Savings (RUL thru EUL Period)</b>	TBD	TBD
<b>Annual Non-IOU Fuel Impact (RUL Period)</b>	N/A	N/A
<b>Annual Non-IOU Fuel Impact (RUL thru EUL Period)</b>	N/A	N/A
<b>Net-to-Gross Ratio</b>	Not provided	Assessment not complete

**Table 1-3: Detailed Review Findings**

Reviewed Parameter	Analysis
<b>Project Gross Savings Baseline</b> (for early retirement projects only, include RUL through EUL baseline)	IOU Proposal: Add on measure
	ED Assessment: Add on measure claim is acceptable
	ED Recommendation: TBD
<b>Project Cost Basis</b> (for early retirement projects only, include RUL through EUL cost basis treatment)	IOU Proposal: Full cost
	ED Assessment: Full project cost acceptable
	ED recommendation: Full cost
<b>RUL</b> (required for early retirement projects only, otherwise n/a)	IOU Proposal: N/A
	ED Assessment: N/A
	ED recommendation: N/A
<b>EUL</b>	IOU Proposal: Not Provided
	ED Assessment: 14 years based on DEER 2008 for air to air heat exchangers but acceptable for water to water heat exchangers.
	ED Recommendation: 14 years
<b>Savings Assumptions</b>	IOU Proposal: Energy audit report provided
	ED Assessment: Savings calculation use average boiler efficiency; incremental efficiency change would be more accurate for large projects.
	ED Recommendation: None.

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<b>Reviewed Parameter</b>	<b>Analysis</b>
<b>Calculation Methods/Tool review</b>	IOU Proposal: Spreadsheet
	ED Assessment: Spreadsheet is acceptable.
	ED Recommendation: None.
<b>Pre- or Post-Installation M&amp;V Plan</b>	IOU Proposal: Not provided
	ED Assessment: Project is large and complex where post-installation M&V would benefit in truing up savings estimate.
	ED Recommendation: Provide post-installation M&V plan.
<b>Net-to-Gross Review</b>	IOU Proposal: Not provided
	ED Assessment: TBD
	ED Recommendation: None at this time.