

Ex Ante Show Stopper Review Findings

Table 1-1: Project Information

IOU	Pacific Gas & Electric (PGE)
Application ID	KEAI-030
Application Date	03/06/2014
Program ID	PGE23027
Program Name	Energy Efficiency Services for Oil Production
Program Year	2014
Itron Project ID	X491
IOU Ex Ante Savings Date	03/06/2014
IOU CMPA Date	06/10/2014
Measure Name	Advanced Controls using Aspen Software
Project Description	Controls are to be added to improve the operation of two hydrogen process trains.
Date of CPUC Staff Review	06/24/2014
Primary Reviewer / Firm	John Hill/ James J. Hirsch & Assoc.
Review Supervisor / Firm	Nikhil Gandhi / Strategic Energy Technologies, Inc.
CPUC Staff Project Manager	[REDACTED]
CPUC Staff Policy Authorization (as needed)	
Type of Review (Desk, On-site, Full M&V, Tool)	Desk
CPUC Staff Recommendation	The proposed project is waived from further review. The IOU should apply a default GRR of 0.9 to the post-installation energy savings estimates developed based on M&V true-up.

Measure Description

This project is associated with a petroleum refinery. The refinery is a complex, highly developed network of process vessels, pumps, piping, equipment and controls built as discrete processes that distill, treat, and purify petroleum streams to produce a wide variety of transportation fuels. The refinery produces hydrogen as part of its process. This project proposes alterations to the control system to two hydrogen production process, noted as Train A and Train B. The identical trains combine steam and methane to produce carbon dioxide and hydrogen. Excess steam (beyond that necessary for the chemical reaction) is needed to maximize the hydrogen yield. The new control system allows a reduction in steam input to the process for the same hydrogen yield. The steam is provided by the plant boiler system, so a steam reduction results in a load reduction at the plant boilers. Additionally, the steam in the reaction furnace must be heated to the reaction temperature, so a reduction in excess steam throughput further reduces the thermal load on the steam plant.

The project cost is estimated at approximately \$65,000. The estimated energy savings are 271,875 therms/yr. Natural gas billing history indicates that projected savings are a very small fraction of purchased natural gas at the site and offsets should accrue. Based on the expected ex-ante savings, the allowable incentive is capped at 50% of the project cost, or \$32,500.

Summary of Show Stopper Issues

Staff has reviewed the PFS PGE submitted and accepts the assertions, approaches and conclusions provided. The project qualifies as a Retrofit Add-On (REA) project. Projected energy savings have been calculated based on SCADA data taken over a three month period. The same data will be collected after installation of the new software. The seminal data points are the steam to carbon ratio provided by the SCADA data. The new control system seeks to reduce this ratio and post-installation data will be available for M&V true-up.

Staff requires final project invoices as part of the final project review. Concerns noted by PG&E on the possible requirement of direct metering of hydrogen output are not an issue for this project. SCADA data provided in the calculation worksheet made during the appropriate post-installation period will suffice.

Review Conclusion

The proposed project is waived from further review. The IOU should apply a default GRR of 0.9 to the post-installation energy savings estimates based on M&V true-up. The IOU should obtain final invoices and maintain in the project file. A claim ID should be assigned to the project and reported in the quarterly claim so that the project can be identified for a possible claims review.