

Phase I Ex Ante Review Findings

Table 1-1: Project Information

IOU	PG&E
Application ID	2K12123477
Application Date	10/8/2012
Program ID	PGE21021
Program Name	NRR-Core (OBF)
Program Year	2012
Itron Project ID	X230
IOU Ex Ante Savings Date	TBD
ED Measure Name	Exterior LED Lighting Retrofit
Project Description	Outdoor lighting retrofit of MH gas station canopy fixtures and surrounding parking lot fixtures with LED fixtures
Date of ED Review(s)	11/30/2012
Primary Reviewer and Firm	Charles Ehrlich/Itron
Review Supervisor and Firm	Joseph Ball/Itron
Review Type (Desk, On-site, Full M&V, Tool)	Desk
ED Recommendation	Savings conditionally approved pending receipt of additional documentation to support the Early Retirement claim. Please provide post-installation M&V report and savings true-up.

Measure Description

The project is a retrofit of outdoor lighting at a gas station canopy and other surrounding parking lot fixtures.

Summary of Review

The documents reviewed for this EAR include:

- 2K12123477 App Package.pdf
- 2K12123477 [REDACTED] PA Package_OBF.pdf
- 2K12123477 PG&E Report.pdf
- 2K12123477 [REDACTED] OBF Loan Agrmt TIF 1670.pdf
- 2K12123477-COM Approved Calculations.pdf
- 2K12123477-COM Approved Calculations.xlsx
- 2K12123477-COM Approved OBF Loan Calculation.xlsx
- 2K12123477-COM LED Specifications and DLC QPL Listing.pdf
- 2K12123477-COM Usage History.pdf
- 2K12123477-COM_2012 PG&E Review Form v1.2_OBF.xls

There are twenty (20) canopy fixtures and nine (9) in the parking lot area to be replaced. The IOU proposes to use the pre-existing light fixtures as the baseline for energy savings. The savings were calculated to be 42,677 kWh with an incentive amount of \$2,133.85. Since more than 50% of the fixtures in the canopy area are being replaced, the new lighting system must be better than the allowable “lighting zones” requirements of T-24 Section 147. For the surrounding parking lot, the percentage of fixtures replaced is unknown but other outdoor lighting requirements may apply such as cutoff angle.

In absence of data on the remaining useful life of the pre-existing fixtures, the RUL may be calculated as 1/3 the EUL of the pre-existing fixture type per DEER if documentation supports that these fixtures were well-maintained and could be maintained into the foreseeable future. Additional documentation is required demonstrating the savings calculations for the RUL through EUL period using the lesser of the wattage of the pre-existing lighting system or the wattage of a minimally compliant lighting system as the baseline. Manufacturer documentation of the EUL of the new LED fixtures is required, i.e., LM-70.

Review Conclusion

ED conditionally approves energy savings claims, pending submission of additional project documentation, and the chance to review the post-inspection IOU savings true-up.

Summary of ED Requested Action by the IOU

In order to complete an ex ante review ED requests that the IOU submit additional documentation to clarify the following issues:

1. Evidence to support the Early Retirement claim including evidence of program influence, the age, condition, and serviceability of the pre-existing fixtures.
2. Dimensioned plans showing that the proposed fixture design layout complies with Title-24 alterations requirements including Lighting Zones and luminaire cutoff requirements, if applicable.
3. Additional documentation calculating the savings during the RUL through EUL period using the lesser of the wattage of the pre-existing lighting system or the wattage of a minimally compliant lighting system as the baseline.
4. Manufacturer documentation including the EUL of the new LED fixtures, i.e. LM-70 or similar extended lifetime lumen depreciation testing data or third-party certification of the expected life of the luminaire.
5. When available, provide full cost & incremental cost data, including relevant itemized paid invoices

The following table summarizes the current status of the Early Application Review.

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)	Early Retirement	TBD
Project Cost Basis (Full Cost, Incremental Cost)	Full Cost implied	For Early Retirement, both full and incremental costs apply (dual baseline).
RUL (Early retirement projects only, otherwise N/A (not applicable))	Not provided	TBD
EUL	Not provided	TBD
First Year kWh Savings	42,677	TBD
First Year Peak kW Savings	0	0

Description	IOU Proposed Ex Ante Data	ED Recommendations
First Year Therms Savings	N/A	N/A
kWh Savings (RUL Period)	42,677	TBD
Peak kW Savings (RUL Period)	0	0
Therms Impact (RUL Period)	N/A	N/A
kWh Savings (EUL thru RUL Period)	42,677	TBD
Peak kW Savings (EUL thru RUL Period)	0	0
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	Assessment not required

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: Early Replacement using in situ fixture wattage. Not provided for the RUL through EUL period.
	ED Assessment: Dual baseline requirements; in situ is fine for RUL period if there is any RUL of existing canopy & parking lot fixtures. The RUL through the EUL period baseline will be the lesser of the wattage of the pre-existing lighting system or the wattage of a minimally compliant lighting system.
	ED Recommendation: Provide age, condition and RUL of the existing fixtures, and provide the lower system wattage values either the pre-existing lighting system or the minimally code-compliant system wattage values.
Project Cost Basis (for early retirement projects only, include RUL)	IOU Proposal: Full cost
	ED Assessment: For Early Replacement, both full and incremental costs apply. Full cost for the RUL period and incremental costs for the “RUL

Reviewed Parameter	Analysis
through EUL cost basis treatment)	through the EUL period”.
	ED recommendation: Provide all incremental cost data, when available.
RUL (required for early retirement projects only, otherwise n/a)	IOU Proposal: Not Provided
	ED Assessment: TBD
	ED recommendation: Provide age, condition and RUL of the existing fixtures
EUL	IOU Proposal: Not Provided
	ED Assessment: TBD
	ED Recommendation: Provide manufacturer’s LM-70 or similar extended lifetime lumen depreciation testing data or third-party certification of the expected life of the luminaire.
Savings Assumptions	IOU Proposal: In situ fixtures as baseline for RUL, no discussion of RUL through EUL period
	ED Assessment: In situ is acceptable if sufficient remaining useful life can be demonstrated and that lighting system exceeds current standards
	ED Recommendation: TBD
Calculation Methods/Tool review	IOU Proposal: Calculation via spreadsheet
	ED Assessment: PDF version of spreadsheet received. Overall seems acceptable.
	ED Recommendation: Provide unlocked, editable spreadsheet
Pre- or Post-Installation M&V Plan	IOU Proposal: Pre-installation site visit verification performed
	ED Assessment: TBD
	ED Recommendation: None required. Requests post-installation verification report with trued-up savings calculations.
Net-to-Gross Review	IOU Proposal: Not provided
	ED Assessment: Not assessed
	ED Recommendation: None required