

Ex Ante Review Findings

Table 1-1: Project Information

IOU	Pacific Gas & Electric
Application ID	MBTU514
Application Date	Approval Date: 9/5/2012
Program ID	PGE2191
Program Name	MBTU (Medical Building Tune-Up)
Program Year	2012
Itron Project ID	X194
IOU Ex Ante Savings Date	TBD
ED Measure Name	N/A
Project Description	Medical Building Tune-Up (RCx and retrofit)
Date of ED Review(s)	09/24/2012
Primary Reviewer and Firm	Chris Williams / DNV KEMA
Review Supervisor and Firm	Joseph Ball / Itron
Type of Review (Desk, On-site, Full M&V, Tool)	Desk Review
ED Recommendation	Savings are conditionally approved pending submittal for post-implementation M&V plan, post-implementation data, and updated savings.

Measure, Program, and Baseline Description

The measures planned for implementation according to the Engineering Report Review dated 9/5/2012 are:

1. Chiller Staging Optimization
2. Raise Chiller Enable Set point for Chillers CH-1,2 and 3
3. Install VFD on Primary Chilled Water Pump P-4
4. Install VFD on Tower Water Pump P-1
5. Raise Chilled Water (CHW) Supply Temperature by 3 degF for Chiller CH-1 and 2
6. Reset Entering Condenser Water (CW) Temperature for Chillers CH-1 and 2
7. Secondary CHW Pump VFD Setback on P-7
8. Recode Heating Hot Water (HW) Supply Temperature Set point for Boilers at CSB
9. Raise Chiller Enable Set point for Chiller CH-1
10. Raise CHW Supply Temperature by 3 degF for Chiller CH-1
11. Install VFD on Tower Water Pump P-2
12. Reset entering condenser water temperature for Chiller CH-1
13. Economizer Optimization AHU-1 through 4
14. Raise supply air temperature set point for AHU-1 through 4
15. Remove inlet guide vanes and installed VFD on Supply air fan AHU-1 through 4
16. Implement Night Setback AHU-1 through 4
17. Economizer Optimization Fan-1 through 3, AHU-1 through 4
18. Raise supply air temperature Fan-1 through 3, AHU-1 through 4
19. Schedule Optimization Fan-1 though 3, AHU-1 through 4
20. Recode Supply Air Fan VFD Speed for Fan-1 through 3; AHU-1 through 4

These measures are for a [REDACTED] square foot medical facility built in 1995, operating 8,760 hours a year. The measures affect multiple pieces of equipment at the building, including the chilled water and heating hot water systems (including pumps, controls, and programming logic) and air handling units. Pre-implementation approved savings is 1,649,277 kWh, 202.5 kW, and 17,798 therms with an incentive amount of \$178,548.00, capped at 50% project cost per program policy.

This medical building retrocommissioning project was applied for under the Medical Building Tune-Up (MBTU) program. This program allows retrocommissioning and larger capital-investment retrofit measures.

Baselines for VFD retrofits are constant speed motors for pumps; inlet guide vanes for fans. The building utilizes an EMS that handles scheduling, set point, control sequencing for all central plant equipment involved. The supplementary engineering report documents the baseline conditions and specifications of all existing plant equipment, including set points, models, capacities, efficiencies, and controls. Baseline usage was also collected via the EMS and monitored data. Monitored data included CHW and AHU performance and outdoor ambient temperature and relative humidity over a period of 2 weeks.

Savings analysis methods are summarized in the engineering report and fully documented in unlocked calculation spreadsheets and accompanying pdf versions

Review Conclusion

Savings are conditionally approved pending additional data submittal for post-implementation M&V plan, post-implementation data, and updated savings.

Summary of ED Requested Action by the IOU

Submit post-implementation M&V plan, and post-implementation data and updated savings when available.