



Marine Corps Base Hawaii

Super T8 with Daylight Harvesting Ballast Demonstration Project

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Project Scope

Retrofit existing light fixtures with daylight harvesting self-dimming ballasts and Super T8 fluorescent lamps

- **Location – Facilities Office, Bldg 242**
 - 8 fixtures/4 offices
 - 10 hrs/day M-F
- **Evaluate energy savings**
- **Establish HECO rebate**



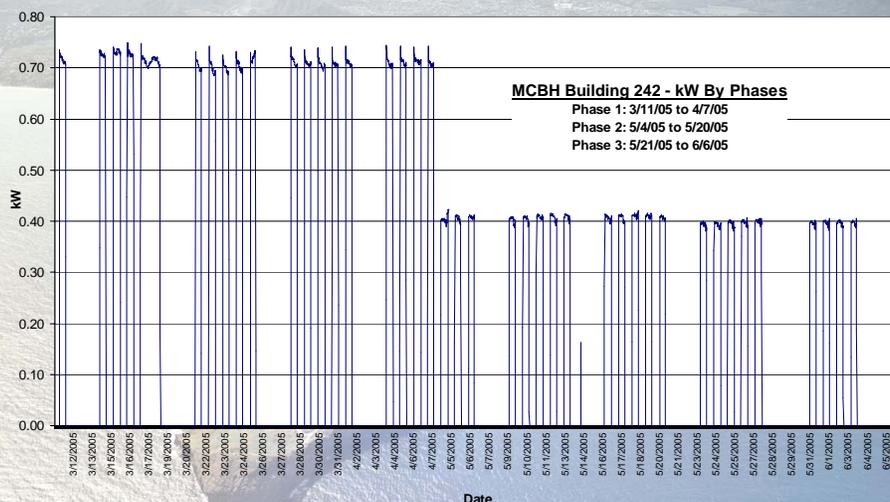


Evaluation Period

- Phase 1: Base Case – T8 lamps with electronic ballasts
- Phase 2: T8 lamps with daylight harvesting dimming control
- Phase 3: Enhanced Case – New super T8 lamps with daylight harvesting dimming control



Metering Results





Energy Savings

Energy and Demand Consumption Summary

Phase No.	Customer			HECO 5 - 9 PM	
	Max kW	Average kW	Energy kWh/Yr	Max kW	Average kW
1	0.749	0.249	2181	0.734	0.137
2	0.423	0.143	1256	0.423	0.052
3	0.407	0.110	963	0.406	0.057

Energy and Demand Savings Summary

Savings By Phase	Customer			HECO 5 - 9 PM		% Energy Savings kWh/Yr
	Max kW	Average kW	Energy kWh/Yr	Max kW	Average kW	
Phase 1 vs. 2	0.326	0.106	926	0.311	0.085	42.4%
Phase 1 vs. 3	0.342	0.139	1218	0.328	0.081	55.9%
Phase 2 vs. 3	0.016	0.033	293	0.017	-0.005	23.3%

Rebate incentive based on Phase 1 vs. Phase 3

kWh/Yr savings per fixture: 1218 kWh/Yr / 8 Fixtures = 152 kWh/Yr (Phase 1 vs. Phase 3)



Cost Analysis

Annual Savings: 1218 kwh \$158

Costs:

8 - Daylight Harvesting Ballasts \$320

24 - Phillips Alto Super T8 Lamps \$60

Installation Labor \$280

Total \$660

HECO Rebate: \$71

Total Cost \$589

Simple Payback: 3.7 years